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FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

Tuesday April 12 1983

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NEWS SUMMARY

GENERAL

Swiss defence on dioxin waste 'accepted'

The Swiss Government yesterday defended chemical company Hoffmann La Roche against allegations that it had concealed information from West Germany about the whereabouts of toxic dioxin waste from Seveso, Italy.

The Bonn Government seems to have accepted this view after initial reservations.

At the same time Swiss Interior Minister Alphons Egli expressed doubts that Mannesmann-LaRoche had carried out its contract to dispose of the waste in another European country. The whereabouts of the 41 canisters of waste is still not definitely known. Page 3

America peace bid

Intense diplomatic activity is under way in European capitals to find a negotiated solution to the fighting in Central America. Page 7

Gulf war flares

Iraq said it recaptured a large area of its territory in a new offensive in the war with Iraq. Iraq said it beat off most of the advance. Page 4

Oil slick nears

Saudi King Fahd ordered the temporary shutdown of Al-Khobar desalination plant as a Gulf oil slick threatening eight states neared the Saudi coast. Page 4

Australian 'crisis'

Australians most tightened their belts to help the country through its worst economic crisis for 50 years. Prime Minister Bob Hawke said at the start of a national economic summit. Page 4

Corsica bombings

Homes owned by foreigners or people from mainland France were damaged when six bombs exploded in Garese, southern Corsica. Page 3

10 held hostage

Ten West German oil prospectors at a camp in southern Algeria were being held hostage by Algerian workers demanding better conditions.

Falklands shooting

An Argentine prisoner of war burst in an ammunition explosion in the Falklands war was shot by a British sergeant in a mercy killing. UK Defence Secretary Michael Heseltine said.

Threats to Kreisky

Several anonymous threats against Austrian Chancellor Bruno Kreisky's life have been made in recent weeks, his office said.

Greece 'not satisfied'

Greece said it was not fully satisfied with the EEC Commission's response to its request for a better deal from Community membership. Page 3

London paralysed

Central London was paralysed for three hours before an unexploded Second World War bomb dredged up from the River Thames was defused.

Briefly...

Solidarity trade union activist Edmund Baluka went on trial in Poland.

International conference on Marxism opened in East Berlin.

Seven died in factional fighting in a black squatters' camp outside Cape Town.

Greenland votes in parliamentary elections today.

BUSINESS

BNOC's \$30 oil price 'accepted'

BY OUR FOREIGN STAFF

PRESIDENT RONALD REAGAN insisted yesterday that his Middle East peace initiative is not dead and claimed that King Hussein of Jordan is still "determined to push forward" with the U.S. plan, despite the King's public rejection of the plan on Sunday.

President Reagan's continuing confidence in his proposals was reinforced by telephone conversations with King Hussein and King Fahd of Saudi Arabia, the State Department said yesterday.

Meanwhile, Mr Francis Pym, the British Foreign Secretary, is due to fly to Jordan today to meet King Hussein, adding his own efforts to the attempts to salvage what remains of President Reagan's peace plan. Mr Pym, who is at the end of a Middle East tour, was in touch with Mr George Shultz, the U.S. Secretary of State, yesterday.

Some Western officials hope that the latest demands by the PLO may be a tactical move designed to step up pressure on Washington and lead to a tougher U.S. stand against Israel.

But Administration officials appeared at a loss to suggest exactly how the peace process might go ahead.

The main governments concerned with the initiative, while bitterly disappointed that Jordan could not accept President Reagan's proposals, were yesterday stressing that King Hussein had carefully avoided rejecting them in the way that Israel did seven months ago.

Mr Shultz maintained yesterday that King Hussein had come "very close" to an agreement with the PLO on participation in the U.S. plan. According to Mr Shultz, the last minute changes demanded by the PLO's "radical elements" in the talks and the creation of a Palestinian state on the West Bank of the Jordan, were "unacceptable" to both sides.

Mr Shultz speaking in a television interview, said that he wanted to go to the Middle East to advance the peace process, but only "at the appropriate time" and the State Department said that there were no dates set either for a Shultz visit to the Middle East, or for visits by Middle East leaders to Washington.

In Jerusalem senior officials believe the failure of the Hussein-Arafat summit. Page 19

● DUTCH oil reserves have been raised officially by 150 per cent to 41.5m tonnes after assessment of finds in the North Sea last year. Page 3

● BROKEN HILL Proprietary indicated that it would virtually abandon its A\$2.6bn (\$2.4m) steel investment plan unless the Australian Government offers greater protection against imports. Page 18

● SHARES were suspended in Trifalor Housing, Hong Kong property, mining and fish farming group, after it said there would be no profit for the year just ended. Page 29

● JAPAN is relaxing regulations so that banks can set up computer links with corporate customers and customers at home. Page 19

● IISH HOLDING, West German construction equipment group, aims to break even this year after making a loss of between DM 50m (\$20.7m) and DM 60m last year. Page 19

● GLAXO HOLDINGS, UK pharmaceuticals group, raised first-half taxable profits by £29.55m to £86.3m (£13.4m). Page 22; Lex, Page 18

● INTERPACE management group rejected a major shareholder's offer to buy the New Jersey-based building products maker for \$3.3 a share.

● MOULINEX, French electrical appliances group, lifted profits 24 per cent last year to FF 52.2m (£7.3m) on sales a sixth higher at FF 27.8m.

The commission is also confident

Reagan bid to salvage peace plan

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Mauroy accedes to some Communist demands

By Paul Bettis in Paris

A MAJOR political showdown between the ruling French Socialist Party and the Communist Party, its junior partner in government, was averted last night when the Communists fell into line and voted in the National Assembly.

The officials said yesterday the U.S. approach had been based on an impossibility — compromise between Jordan and the PLO. This was something which obviously could not work. The U.S. fell into a trap of its own making, they said.

Mr Menahem Begin, the Israeli Prime Minister, said he was not surprised by King Hussein's refusal to enter Middle East peace negotiations. Israel never expected anything to come from the talks between the Jordanian monarch and Mr Arafat, he said, adding that there was nothing to be discussed with the PLO.

Some Western officials hope that the latest demands by the PLO may be a tactical move designed to step up pressure on Washington and lead to a tougher U.S. stand against Israel.

A compromise was reached when the Prime Minister made concessions to the Communists yesterday, although he did not agree to all five amendments proposed by the smaller of the two left-wing French parties.

But the Communists appeared to have been satisfied by the compromise and agreed to vote for it. They had shamed the Socialists into voting for the Government unless M Pierre Mauroy, the Prime Minister, agreed to amendments designed to reduce the burden of the new measures on lower income families.

A compromise was reached when the Prime Minister made concessions to the Communists yesterday, although he did not agree to all five amendments proposed by the smaller of the two left-wing French parties.

In London there is a widespread tendency to blame Tel Aviv and Washington for the problems the Arabs have had in joining in the peace plan. "The U.S. is at fault," one official said bluntly yesterday. "We have told them often enough that they are not doing enough."

President Reagan's special envoy, Mr Philip Habib, returned to Jordan yesterday hoping to retrieve something from the ruins.

The Israelis, for their part, stressed that the collapse of the talks in Amman underlined the fact that the PLO has not become more moderate, as the U.S. seemed to believe. The assassination over the weekend of a PLO moderate, Dr Isam Saraiha, proved that it is the hardliners who call the shots in the PLO, Israeli officials said.

They expressed the hope that relations between Washington and Jerusalem will now improve, with a lessening of pressure on Israel to make concessions to the Arabs.

Reagan's peace plan failure, Page 4; Editorial comment, Page 16

\$100 Eurobond for state agency, Page 23

Sterling and shares advance strongly in London

UK resists early cut in interest rates

By MAX WILKINSON IN LONDON

STERLING rose by 2 cents against the dollar in London yesterday as share prices set new records and government securities advanced strongly.

British financial markets seemed all set for a cut in base lending rates, but the Bank of England continued to resist the downward pressure by keeping a tight rein on the money market.

The central bank refused to accept bills offered to it at lower rates, and by holding its dealing rates unchanged, it kept the money market short of funds.

As a result the seven-day interbank rate rose 1/2 point to 10% per cent. However, the market expectations of a further fall in interest rates was so strong that all the longer term rates fell by about 1/2 point and stock market prices continued to move up.

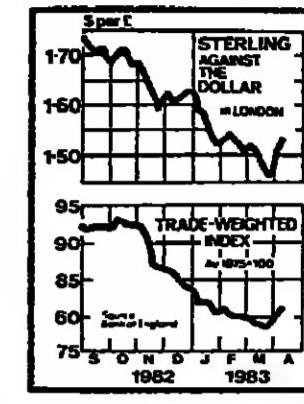
The FT Industrial ordinary share index rose 8.9 points to 683.9 and longer-dated government securities gained up to 2 points compared with closing prices on Friday.

The optimistic mood was underpinned by a further recovery of sterling, which closed in London at \$1.5270, a gain of 2.2 cents since Friday's London close. The pound's Bank of England index against a trade-weighted basket of currencies gained 1 point to close in London at 81.6 (1975 = 100), its highest level for two months. Dealers reported a fairly firm two-day market which might suggest that the pound will settle at a new level for a while.

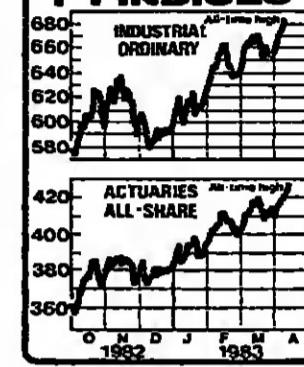
The pound was helped by a slight weakening of the dollar, which reflected the market's expectation of an easing of U.S. interest rates, and the three-month Eurodollar rate fell 1/2 point to 9% per cent.

In spite of these easier trends, however, the Bank of England showed clear signals that it was not yet ready for the 1% percentage point cut in clearing banks' base lending rates, which is now generally expected.

It appeared anxious to avoid any reversal of the firmer trend of sterling which has been established since Easter, and it may also be tak-



STERLING AGAINST DOLLAR, LONDON



FT INDICES

INDUSTRIAL ORDINARY

ACTUARIES ALL-SHARE

Source: Financial Times

ing a cautious view of the likely rate of increase of the money supply after the provisional figures for March issued last week.

These showed that the three main definitions of the money sup-

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Money markets, Page 36

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Europe's oldest parliament will set your business free

If you're looking for a place to develop your business, the Isle of Man offers you a unique advantage.

Freedom. And on more than one front.

We won't, for example, lock up your profits by taxing them heavily. In fact, with Income Tax at only 20% for both individuals and companies, no Corporation Tax, no Capital Gains Tax (except on certain land transactions) and no Wealth Tax, Surtax or Estate Duty, we'll leave you free to enjoy the fruits of your labour in peace.

We'll also leave you free to pursue your ambitions, within a sensibly ordered legal and commercial framework. Though we are Europe's oldest parliament, with over a thousand years' continuous and stable government behind us, you'll nevertheless find we're remarkably accessible and informal.

We're generous, too. We offer substantial grants to new manufacturers coming to the Island. These cover plant, machinery and building costs as well as training and marketing needs. We also offer working capital loans on very favourable terms.

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For an old-established community only 80 minutes from London you'll find we're very much up-to-the-minute when it comes to business and finance.



To: Ken Bawden,

Government Offices, DOUGLAS, Isle of Man.

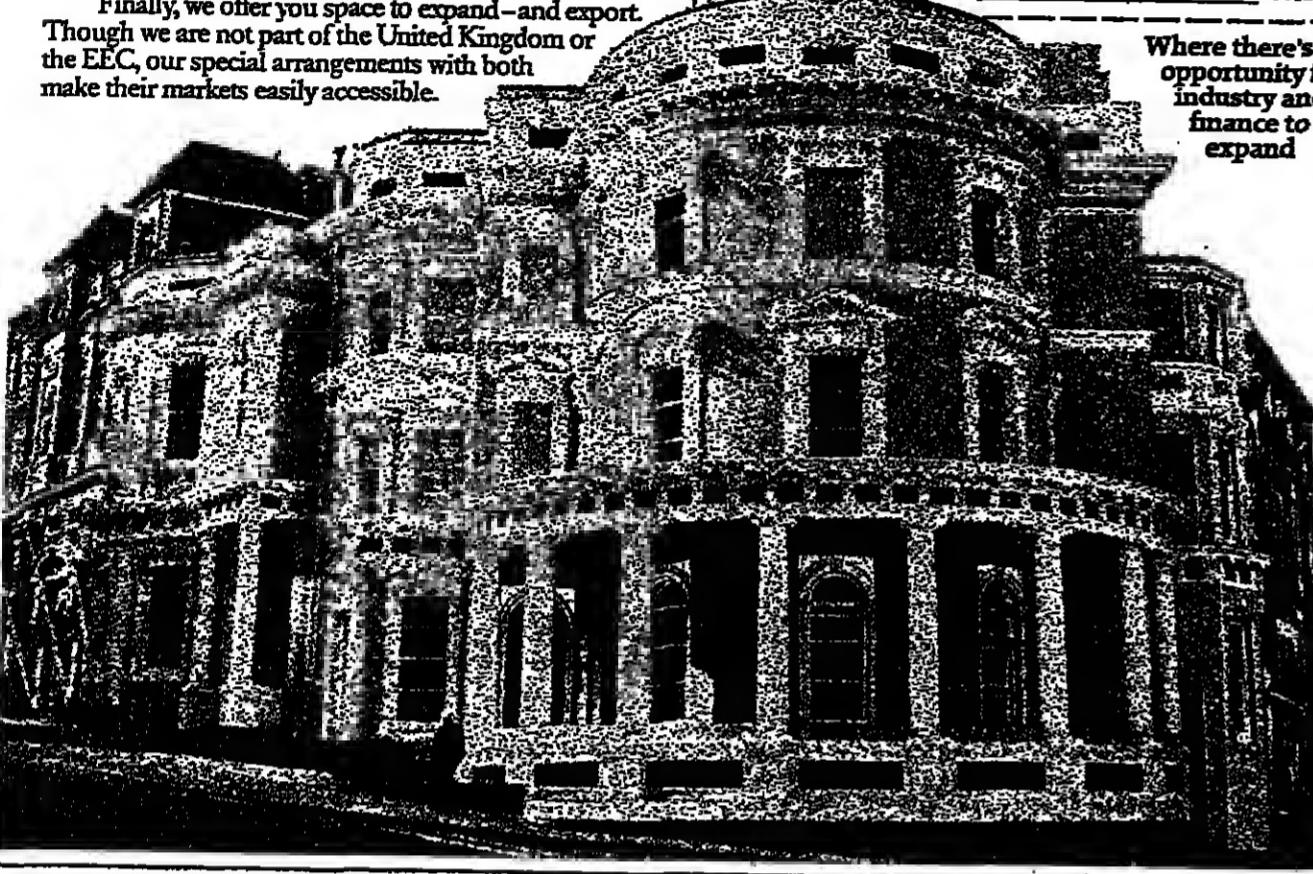
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Name of business _____

FT1234

Where there's opportunity for industry and finance to expand



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SIMPLE PROPOSITIONS CLOAKED IN MIND-CHOKING ENGLISH HAVE RUDDLED THE SELLING OF COMPUTERS. TYCOP HAS NO VISION TO PERFECTIONATE THIS EVIL. OUR PEOPLE HAVE A FUTURE-PROOF COMPUTER THEY CAN SELL FOR UNDER £3000, AND THIS CONCENTRATES THE MIND MARVELLOUSLY.
"SORRY, BUT MR BRAINS IS OUT TO LUNCH!"
TYCOP WILL NOT BE PESTERING YOU.
FRANKLY, YOU WOULD ONLY BE WASTING YOUR TIME IF YOU HAVEN'T DONE MOST OF THINKING FOR YOURSELF.
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2. YOU'RE NOT HAVING TO SPEND YOUR WAY OUT OF THIS WARME

A dangerous new salesperson is on the prowl.

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EUROPEAN NEWS

Mystery surrounds fate of Seveso waste

BY JOHN WICKS IN ZURICH AND JAMES BUCHAN IN BONN

THE SWISS Government yesterday defended the chemical company Hoffman La Roche against allegations that it had concealed information from the West German Government on the whereabouts of two tonnes of highly toxic dioxin waste from Seveso in Italy. Bonn seems to have accepted this defence after initial reservations.

At the same time, Dr Alphons Egli, the Swiss Interior Minister, expressed doubts that Mannesmann Italiana, the Italian subsidiary of Mannes-

mann of Dusseldorf, had carried out its contract to dispose of the waste in another European country. The whereabouts of the 41 canisters of waste is still not known definitely.

Last summer, Mannesmann Italiana was awarded the contract to remove the two tonnes of earth tainted with dioxin at a chemical factory in Seveso in 1976 which contaminated 1,800 hectares of countryside and caused serious skin diseases among local children. The fac-

tory was operated by Icmesa, a subsidiary of Hoffman La Roche.

Mannesmann Italiana was alleged to have handed over the job to sub-contractors, and not to have supervised the removal of the soil as it was contracted to do. In Zurich yesterday, however, it was announced that Mannesmann Italiana told Icmesa that the waste had been removed from Italy.

The sub-contractors appear to have removed the 41 canisters from Seveso last September 10

and transferred them to France under "vague" Customs declarations.

In these circumstances, the Ministry admitted, a West German Customs post could have admitted the shipment.

Speculation continues to concentrate on East Germany as a storage site because of the hard currency value of the contract. The East German news agency ADN, however, has denied there is any dioxin at East German dumps.

French minister in Spain for arms talks

BY TOM BURNS IN MADRID

THE FRENCH Defence Minister, M Charles Hernu arrived in Madrid yesterday, for two days of talks aimed at increasing the already considerable Franco-Spanish armaments links.

According to working sessions with Sr March Serra, his Spanish counterpart, he is also scheduled to hold talks with Prime Minister Felipe Gonzalez and Sr Francisco Miralles, the Spanish Minister of Spain's independent Nato within Nato.

Under the terms of a 1970 military co-operation agreement Spain builds under licence French AMX tanks and Augusta class submarines, two of which are already in service in the Spanish navy and with a further two under construction.

The discussions are expected

EEC aims for closer Gulf links

BY JOHN WYLES IN BRUSSELS

THE EUROPEAN Community is taking its first tentative steps towards closer political co-operation with the Gulf states by providing technical services to aid the development of the six-nation Gulf Co-operation Council.

Recent talks in Riyadh between Mr Abdulla Elsharif, the Council's secretary-general, and Mr Joseph Loef, the European Commission's deputy director-general for external relations, have produced the first co-operation programme between the two regional bodies.

The political talks scheduled for M Hernu underline Madrid's interest in explaining its decision to freeze negotiations on joining Nato's military command structure while it reviews the terms of its membership.

France's own independent status within Nato has long been the object of study by Madrid's Socialist Government some of whose members envisage a similar eventual position for Spain within Nato.

The programme is the first move in a step-by-step approach which may eventually realise the EEC's hopes for closer and more systematic political contacts with the Gulf.

The Community offered co-operation agreements to the individual Gulf states in early 1980 in the wake of the Soviet invasion of Afghanistan which was seen as a potential threat to the stability of the vital oil-producing region.

The approach apparently aroused little interest at the time in the Gulf where Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Oman and Bahrain were more preoccupied with setting up their own regional grouping than at close economic and defence co-operation.

The Gulf Co-operation Council was eventually launched in June 1981 and part of the specialist help to be organised by the Commission will be the supply of expert advice on the creation of a customs union.

In addition, the EEC will advise the Gulf states on setting up a common statistics and data bank system. The Co-operation Council's documentation centre will also be supplied with a complete set of Community publications.

It has also agreed further that the two sides should consult on the marketing and supply of energy—a discussion which the Community has long been seeking with Arab oil-producers.

The first energy meeting at expert level will take place in

March.

Commissioner Brouard has scored heavily so far by uncovering links between some members of the separatist movement and ordinary crime.

Organise the campaign on an island with a long history of nationalism and extremism.

The separatists, yesterday accused the authorities of infiltrating policemen into their movement to undermine what they called "the Corsican national struggle."

They also condemned police attempts to portray the group as a criminal rather than political organisation.

Commissioner Brouard has

scored heavily so far by uncovering links between some members of the separatist movement and ordinary crime.

Brussels reply fails to satisfy Greece

BY VICTOR WALKER IN ATHENS

THE GREEK Government said yesterday it was not completely satisfied with the EEC Commission's response to its request for a better deal from its Community membership, and looked forward to further discussions.

A statement issued after a one-day visit by Mr Richard Burke, an EEC Commissioner, said the response was imprecise even though it showed a better understanding of Greece's special problems.

The Commission replied 10 days ago to a year-old memorandum by the Greek Government asking for special arrangements to take account of the peculiarities of Greece's economy. It indicated that these would be undertaken mainly through the Integrated Mediterranean programme and financing of projects to be included in the Greek five-year development plan now being drawn up.

Several suggestions have been made to member states about ways in which the Greek economy to that of the EEC," it said.

Irish plan widespread tax protest

BY BRENDAN KEENAN IN DUBLIN

MANY FACTORIES, shops and schools in Ireland are expected to close tomorrow afternoon when workers take to the streets in protest at increases in tax and social security payments. Public transport could also be affected.

The main concern is the situation at Waterford Glass, one of the country's leading industrial companies, where workers have said they will refuse to pay income tax or pay related social insurance.

The Government is certain to respond in next week's Finance Bill to the pressure for tax reform with tough anti-evasion measures over and above those announced in the budget in February.

Almost 90 per cent of income tax is now paid under the pay-as-you-earn system, and ministers are discussing ways of increasing the revenue from the professions, the self-employed and farmers. Penalties for tax evasion are likely to be increased sharply.

The pressure from workers and unions may actually make it easier for the Government to extract more from other groups and also to increase capital taxation which this year is expected to yield about £22m (£22m), compared with £11.7bn (£14.7bn) from income tax.

Ministers are anxious to get across the message that, whatever they do, further substantial tax rises and public spending cuts are likely next year.

Finnish PM quits

MR KALEVI SORSI, the Finnish Prime Minister, handed in his resignation yesterday, paving the way for the formation of a new government after the general elections last month. AP reports from Helsinki.

Dutch estimate of oil reserves boosted by 150%

BY WALTER ELLIS IN AMSTERDAM

DUTCH OIL reserves have been increased officially by 150 per cent, to 41.5m tonnes, following assessment of "spectacular" finds made last year. Offshore reserves should meet some 15 per cent of the country's needs from 1985-86. Onshore reserves — mostly in the far north of the Netherlands — would add a further 5 per cent, he said.

Mr Herman Ruding, the Energy Minister, told that Dutch annual oil consumption was now around 22m tonnes and that known offshore reserves should meet some 15 per cent of the country's needs from 1985-86.

The new figure is made up of 18.5m tonnes of proven reserves and 23m tonnes unproven, and compares with a previous estimate of 8.5m tonnes in both categories.

If the total is confirmed by exploration this summer, claims made last month by Holland Sea Search, an Amsterdam-based offshore concern, that at least 20 per cent of the Netherlands oil needs can be met through reserves which could be vindicated.

The revised estimate was announced in Parliament by five years.

Coalition at odds on cuts

BY OUR AMSTERDAM CORRESPONDENT

A DISPUTE has arisen within the Dutch coalition over nearly Fl 1.5bn (£275m) while the Liberals and some right wing Christian Democrats are pressing for Fl 2bn. The spring budget is shortly to be presented to Parliament.

The cuts will be on top of the Fl 1.5bn in savings already contained in the Government's policy document for 1983. Expenditure is being rising recently in spite of efforts to contain it. Even the surplus on the balance of payments, which had been forecast to reach Fl 14bn this year, is now expected to be no more than Fl 10bn.

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OVERSEAS NEWS

Australian unions may agree to pay restraint

BY MICHAEL THOMPSON-NOEL IN SYDNEY

THE NATIONAL economic summit meeting convened by Australia's new Labour Government opened in Canberra yesterday with the Australian Council of Trade Unions (ACTU) indicating its readiness to reach agreement on continued wage restraint.

In return, it expects the Government to move fast on job creation and economic expansion.

The summit meeting - part of Prime Minister Bob Hawke's strategy to forge much closer ties between unions, business and government - represents an unprecedented exercise in "open government" in Australia.

Yesterday, the Government announced details of its proposed

prices surveillance authority and of its economic planning advisory council. The purpose of the latter is to help set broad economic targets.

Mr Hawke told the meeting that its task was to secure broad agreement on the role of the Government's proposed prices and incomes policy, and to discuss key problem areas such as wages, industrial relations and job creation.

The meeting, which lasts all week, will also examine the reasons for Australia's present economic decline.

In an important move, the ACTU said that it accepted the need for tax increases, provided the extra revenue was ploughed into job crea-

tion. The Federal Treasurer, Mr Paul Keating, stressed that the Government's twin objectives were wage restraint and lower inflation.

At the uranium mining town of Mary Kathleen in the Australian outback went on sale yesterday to the highest bidders, Reuters reports.

The one-week auction of buildings and equipment will erase the town from the map and its 1,000 inhabitants will be replaced by sheep.

Mary Kathleen, 900 miles north-west of Brisbane, was built in the late 1950s to provide Britain with uranium oxide. It was closed in the 1980s but reopened in 1976 to supply the U.S., Japan and West Germany until the ore ran out.

Iranians launch new offensive

BAGHDAD - Iran said yesterday that Iranian forces had launched a major offensive in the Gulf War and reported fierce fighting along its eastern border. Iran said its forces had recaptured a large area of its territory in heavy fighting.

A military communiqué from Baghdad said the Iranians attacked in the south-eastern border province of Misan along a 30km front.

A later communiqué said most of the Iranian thrust was beaten off but fierce fighting was continuing.

Three hundred Iranians were said to have been captured, while the rest of the attackers either fled or were killed in the fighting, which occurred between the border villages of Al-Eila and Zubaidat.

Tehran radio said artillery battles were continuing yesterday in the Ein-e-Khosh region which forms the boundary between the mountainous province of Ilam and the plain of Khuzestan province.

It claimed that 3,000 Iraqi soldiers had been killed or wounded in the new attack, which a communiqué said was the continuation of Iran's Fajr (Dawn) offensive in February.

The communiqué said several Iranian villages, three strategic heights and a military outpost had been recovered in the offensive.

King Fahd of Saudi Arabia ordered the temporary closure of a desalination plant drawing water from the Gulf yesterday as a huge

oil slick threatening eight states neared the Saudi coast.

Oil gushing from shattered Iranian wells at the head of the Gulf has produced a slick spread across 19,500 sq km, causing the worst pollution ever seen in the region.

The official Saudi press agency quoted the agriculture ministry as saying that King Fahd had also ordered fishing to stop in polluted areas.

Yesterday, helicopters spotted oil 10 miles from Al-Khor, west of Bahrain, where the desalination plant is sited.

The eight Gulf littoral states have been trying to persuade warring Iran and Iraq to agree on capping the wells in the war zone. Reuters

SA unions seek wider grouping

By Bernard Simon in Johannesburg

SEVEN OF South Africa's largest emergent black trade union groups, with a combined membership of around 200,000, are to examine the feasibility of forming a joint federation.

At a meeting in Cape Town, the unions agreed to set up a committee to investigate the matter. Participants include the Federation of South African Trade Unions (Fosatu), the largest group of black trade unions, whose 12 affiliates are strongest in the motor, engineering and textile industries.

Among the other unions which have agreed to study the General Workers' Union, widely recognised as one of the best organised of the emergent unions, and the radical South African Allied Workers' Union (SAAWU). The move towards co-operation has been given added impetus by the weaker negotiations position of the unions since the onset of the recession in the South African economy 18 months ago. Unions have been unable to prevent large-scale retrenchments, and have been powerless to counter the increasingly tough stance of employers against strikers.

Precious unity moves have been frustrated by wide policy differences among the unions. The Council of Unions of South Africa (Cusa), which has, so far, declined to take part in the moves towards co-operation, has argued that creation of such a body would stifle the emergence of black trade union leaders.

Reagan plan loses its linchpin

BY REGINALD DALE, U.S. EDITOR, IN LONDON

KING HUSSEIN'S refusal to join the Middle East peace process has knocked the linchpin out of President Ronald Reagan's initiative - one of the main planks of his foreign policy.

Although the initiative, launched on September 1, had clearly been faltering for several months, Washington had been pinning its hopes, increasingly desperately, on the King to take his courage in both hands and step forward as its saviour.

In addition to private and public appeal, the Reagan Administration hinted that some of the sophisticated U.S. weapons that the King wants, such as mobile anti-aircraft missiles and advanced fighters, might be more easily forthcoming if he joined the peace process.

Only last Friday, the Administration said publicly that the U.S. would also put renewed pressure on Israel to freeze the

establishment of Jewish settlements in the occupied territories if he did so.

The Administration has stepped up pressure on the Government of Mr Menahem Begin, the Israeli Prime Minister, to withdraw from Lebanon by withholding delivery of a second batch of 75 F-16 fighters that Israel says it needs for its defence. It also frantically searched for a formula to guarantee the security of Israel's northern border after the Israeli army pulls out.

Now that all these efforts have failed, Washington will certainly do its best to find some other way of salvaging its initiative.

Several steps were said to be under consideration in Washington yesterday. Mr Reagan's first move on bearing the news was to telephone King Hussein and King Fahd of Saudi Arabia, and yesterday he was in touch with other moderate Arab leaders, who privately favour

the U.S. plan further. The aim appeared to be to persuade them to use their financial and political leverage to force the PLO's various factions into an agreement with King Hussein that would allow him to go ahead.

Mr George Shultz, the Secretary of State, said the King was very close to entering the talks until the PLO made last-minute changes in the agreement on his participation.

However, while King Hussein might like to participate, he can only do so with PLO agreement, and the changes demanded by the PLO appear to make this impossible. Mr Shultz says that the changes were insistence that PLO representatives must be physically present at the bargaining table and a return to the demand for a Palestinian state - both totally unacceptable to Washington.

The chances of the U.S. making a radical shift of policy and recognising the PLO in the run-up to a presidential election

Hussein and Arafat acquire time to ponder next steps

BY RAMI G. KHOURI IN AMMAN

THE breakdown in Palestinian-Jordanian talks to formulate a joint negotiating position on talks with Israel, although a blow to President Reagan's Middle East initiative, gives King Hussein and the Palestinian leadership considerable breathing space to ponder future moves.

The breakdown was prompted by two key points:

• Jordanian frustration at basing on the part of the Palestine Liberation Organisation (PLO) in drawing up a joint negotiating team to enter peace talks based on the Reagan initiative, and

• Considerable scepticism on the part of both Jordan and the PLO that the U.S. was willing to exert the kind of pressure necessary to halt Israeli settlements in the West Bank and Gaza and effect a withdrawal of Israeli occupation troops from Lebanon.

The Jordanian Cabinet statement issued on Sunday clearly left the next move to the PLO and the Palestinian people. King Hussein's affirmation that

he cannot be expected to represent the Palestinians in any future peace talks has dealt a strong blow to U.S. hopes that Jordan could be enticed into entering the suspended American-Egyptian-Israeli Camp David accord talks on the future of the West Bank and Gaza.

But behind the immediate gloom are reasons to expect an accelerated U.S. and Arab drive in peace-making efforts within the coming year. The breakdown in the Jordan-PLO talks removes the considerable, and perhaps largely self-imposed, pressures on King Hussein to decide his next move. The PLO leadership also gains valuable breathing space to formulate future strategy.

One important task is to reduce Syrian and pro-Syrian Palestinian opposition to a broadened Middle East negotiation based on the Reagan initiative. The PLO also needs extra time to explore means of participating indirectly with the U.S. initiative while remaining faithful to the principles of both PLO decisions and the Fez

Arab summit resolutions of last autumn.

Considerable progress has been made towards improving Jordanian-Palestinian ties in the past six months. The speedy agreement on a confederal relationship between Jordan and any future Palestinian state, a key element of the Reagan plan, indicated clearly the extent to which Jordan and the PLO felt the need to go along with the U.S. initiative to the greatest extent possible, given the lack of other options.

In the end, however, the PLO leadership was not fully convinced the Americans could or would deliver on their promise to halt Israeli settlements if a Jordanian-Palestinian delegation stepped forward.

The PLO will now face strong pressure to formulate a policy by which the organisation can be seen as entering a negotiating process with some promise of achieving the most minimal Palestinian demands - namely the withdrawal of Israel from the West Bank and Gaza.

Syrians cannot hide satisfaction

By Louis Faris in Damascus

FIRST Syrian reaction to the Jordanian announcement came yesterday in a "political commentary" broadcast by the government-owned Damascus state radio, which did not hide its satisfaction at the results of the Amman talks between King Hussein and Mr Arafat.

What Syria has forecast is taking its way to reality, the commentator said. "It is established now, after Sadat's surrender to the U.S. and Israel, and after the invasion of Lebanon and what has preceded and followed this invasion, that the U.S. does not have the keys to a solution in the area, and that the schemes and projects put forward by the U.S. do not answer the minimal requirements accepted by the Arabs."

"This, in addition to the fact that the U.S. is not able, or is not willing to convince or to force Israel accepting even these American plans," it went on.

Reuter's report from Bahrain: Mr Yassir Arafat, the PLO leader, sent a message to the Kremlin yesterday on recent Middle East developments, the official Saudi Press Agency reported.

The agency said in a report from Sana, where Mr Arafat is meeting North Yemen officials, that the message was sent through the Soviet Ambassador and also dealt with Mr Arafat's recent Arab tour.

AP reports from Kuwait: PLO officials declined immediate comment on King Hussein's decision to discontinue co-ordinating with PLO on Middle East peace moves. The Jordanian decision, they said, required careful study.

But Palestinians close to the PLO said they expected King Hussein to encourage the "so-called moderates" in the West Bank and Gaza to replace the PLO in any future Middle East peace action.

AP reports from Moscow: The Soviet Union said yesterday that Jordan's refusal to enter U.S.-sponsored talks on the Middle East was a "deadly blow to Washington's 'Feverish efforts' to realise President Reagan's plan."

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WORLD TRADE NEWS

EEC steps up pressure on Japan

GENEVA—The EEC, applying more pressure on Japan to liberalise its trade policies, has asked for creation of a working party under the General Agreement on Tariffs and Trade (GATT) to examine whether existing Japanese practices are too restrictive.

A Community official said the action was taken because recent Japanese moves toward more open trade, while welcomed by Brussels, are not sufficient to alleviate the large trade imbalance between Japan and the EEC.

The EEC's request was being distributed yesterday to officials of the 88 nations adhering to the Gatt. They are expected to consider it at the Gatt council's next meeting on April 20.

The move follows several rounds of talks last year between Community and Japanese trade negotiators.

The Community's deficit with Japan widened steadily to \$12.5bn (£8.5bn) in 1981. The deficit narrowed to \$10.6bn in 1982.

AP

Christian Tyler analyses problems the White House faces in curbing the 'high-tech' drain

Export control looms large in Reagan's plans

PRESIDENT Ronald Reagan has demonstrated once again that he is determined to put an armlock on Soviet military and technological progress.

He is equally determined to punish, by embargo if necessary, companies within the Western alliance who "leak" to the Warsaw Pact technology he considers against U.S. interests.

The high priority the U.S. president attaches to these aims was declared last week when Mr Lionel Olmer, under-secretary of Commerce, explained to a Congressional sub-committee what the White House wants from a revised Export Administration Act, 1979.

Indeed, if the President gets his way, the whole emphasis of the legislation—due for renewal by September 30—will be shifted away from export promotion and towards export control.

But the President may not get all he wants. The White House proposals were under attack even before they were sent to Congress, if only because the arguments thrown up by the

Siberian gas pipeline row have comfortably survived the Administration's retreat on that issue.

Now European Ministers and officials are busy lobbying on Capitol Hill to try to curtail what they see as an ever greater extension of U.S. interference in the business of overseas companies and the sovereignty of national governments.

In particular they are "deeply unhappy," to quote the British Trade Minister, Mr Peter Rees, about the threat of U.S. import ban on overseas companies that the President considers to be dodging the rules for trade with the Eastern bloc.

U.S. export controls date back to 1940, when the President took powers to ensure that shortages did not develop at home because of the Second World War. They were used for supply reasons in 1973 to prevent shipment of soybeans (incidentally encouraging Brazil to develop its own soybean exports).

It said, in effect, that successive embargoes on exports to the Soviet Union had done

more damage to Americans than to Russians.

Since the middle of 1978, for example, Caterpillar's 35 per cent share of the Soviet market

for large pipelaying machines had been inherited by Komatsu, its Japanese rival. The loss of over \$400m of exports and 12,000 man-years of employment seemed "an expensive price for Peoria and other communities to pay."

Peoria is in Illinois, and the fact that it is the only independent Congressman from Illinois—Rep. Robert Michel, minority Republican leader of the House, and Senator Charles Percy of the foreign relations committee—are facing re-election could also spell trouble for the Administration.

President Reagan has sought to appease the business—and overseas—lobbies by amending the retroactive nature of the Act's powers except in exceptional circumstances. Companies would have 270 days in which to honour their existing contractual commitments, and there could be successful pressure for further amendment still.

Another area in which officials see the White House compromising is in its reluctance to provide insurance for companies that suffer losses because of a Presidential embargo.

Mr Olmer told the House subcommittee that foreign policy interests might indeed impose significant costs on industry.

But he added: "The President must have the flexibility and the authority to respond rapidly to unacceptable international behaviour." The Administration would oppose any further changes to the Act in that respect.

Senior officials of the Administration are said to be privately unhappy with the President's line of attack, believing—like his business critics—that the U.S. can no longer call all the shots as it used to do.

But despite every argument that will be thrown against him, it might do U.S. companies' business relations everywhere. It is believed Mr. Reagan will use the Soviet threat to press home the main burden of his case.

Swedes to share in Berlin plant

By Maurice Samuels

TWO LEADING Swedish and U.S. packaging companies are to build a jointly-owned factory in West Berlin to supply the growing West German market for beer and beverage cans.

PLM, of Malmö, Sweden, and Ball Corporation, of Munice, Indiana, said yesterday they would invest DM 130m (£30m) on that machinery and buildings and that the plant, with an initial capacity of 500,000 two-piece cans a year, would come on stream at the end of 1984.

In contrast to Britain, where several closures of beverage can lines, the West German can market is expanding, mostly at the expense of glass containers.

The main can factories in West Germany are controlled by two other U.S. groups—Continental Can and National Can. PLM already supplies West Germany from a new can factory at Mainz, 52 per cent of whose output last year was exported. The West Berlin factory will be able to compete more effectively with the other suppliers in West Germany.



Mr Robert Michel

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Protest by Israeli manufacturers

By David Lemon in Tel Aviv

ISRAEL's manufacturers and farmers have decided not to participate in Government-sponsored fairs and exhibitions, as a protest against Treasury policies which they say harm exports.

Last month's industrial exports, excluding diamonds, fell by nearly one quarter, and all exports were 17 per cent less than in March 1982. In the first quarter of this year, exports dropped by 10 per cent.

Yesterday, the Commerce and Industry Ministry played down the March trade figures and attributed them mainly to the economic recession in the West.

U.S. gas deal for Swedish group

Aga, the Swedish industrial gas group, has announced plans to build a new gas separation plant in the U.S. at a cost of \$2.165m (£15m), our Stockholm Correspondent reports.

The group also signed a letter of intent under which the Timken Company, a roller bearings manufacturer, of Canton, Ohio, will buy 60 per cent of the new plant's production of oxygen, nitrogen and argon over the next 15 years.

BANQUE INTERNATIONALE DU CONGO

At the offices of the BEAC in Brazzaville took place on the 4th of April 1983, the constitutive general meeting of the third Bank in the Popular Republic of Congo.

The social capital of the BIOC, fixed at 600 millions of CFA francs, is divided as follows:

—Portuguese Republic of Congo (France) 51%

—Banco de Portugal 18%

—Chemical International Finance Ltd. 10%

—The Long Term Credit Bank of Japan (Japan) 10%

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The head office of the BIOC has been established in Brazzaville, in the building presently occupied by the Congolese Central Bank.

The general meeting has appointed the members of the Board of Administration:

—M. Ithi Goumoumou, member of the Financial Committee, in charge of Planning and Economy, Minister of Finance;

—Clement Mouamba, Antonin Kaline, general manager;

—Pierre Kipondou, financial attaché to the Embassy of Congo;

—Andre Offessence, Planning Director at the Ministry of Planning;

—M. Gerard Larrea de Morel, Assistant General Manager; Herve Schirke;

—The Banco Central, represented by M. Moncef Godio, Munoz;

—The Chemical International Finance Ltd., represented by M. Emmanuel Gobale;

—Tokuda, Chairman and Director for Europe, Middle East and Africa (London);

The general meeting has appointed for first auditors:

—M. Jean-Luc Pommerehne (Paris);

The first Board of Directors of the BIOC was held under the general

chairmanship of M. Clement Mouamba, until this date Deputy Manager of the BEAC, who was appointed general manager of the BIOC.

The Board has approved the technical assistance project proposed

by the BIOC, as well as the investment and the scheme for the

The Board has also decided the opening of a branch of the Bank in Pointe-Noire.

U.S. banks urged not to withdraw from lending

By William Hall in Puerto Rico

U.S. REGIONAL banks must not pull out of the international banking market at short notice if the world banking crisis is to be solved, Mr Peter Cooke, head of banking supervision at the Bank of England warned yesterday.

Mr Cooke, who is one of the world's leading banking supervisors and has been intimately involved in diffusing a recent international banking crisis, was addressing 700 bankers at the annual convention of the Bankers' Association for Foreign Trade (BAFT). In Puerto Rico. He warned that "the snapping of just a few strands weakens the whole fabric to the detriment of all."

Mr Cooke's warning was particularly relevant since it was addressed to an audience of mainly regional U.S. banks. More than 1,000 U.S. banks have lent money to Mexico and many have been wanting to pull out of international lending as Mexico's financial problems have mounted.

Mr Cooke said that some banks are no doubt wishing they had not undertaken the international business. Some argue that they do not understand the business and events have demonstrated very clearly that they and their depositors would be better served if they were stuck to domestic business in future.

Balance sought

"I understand that argument, but I cannot say that it should prevail in current circumstances," said Mr Cooke. "What may be perfectly reasonable for one bank is unreasonable for a large number of banks which, acting collectively, have the effect of imposing severe contraction on the system."

A balance must be struck between the interests of borrowers and lenders if crises were to be prevented and careful judgments were needed to arrive at the appropriate involvement of individual banks.

Mr Cooke emphasised that central bank involvement in recent debt negotiations was essentially "to set out to ensure that the banks involved were fully aware of the overall situation in which they had become involved." He denied that there had been any arm-twisting and said that the final decision had been up to the banks themselves.

He said there were always some inhibitions by the authorities to impel banks to take certain actions under certain circumstances because "it seems to carry with it some kind of implication of underlying support for those institutions which followed that course of action. This is a very delicate path which has to be trod," said Mr Cooke.

Closer scrutiny

Turning to the short-term money markets, he said that the maintenance of essential flows in the interbank markets was extremely important for everyone's interest. He added that banks will need to pay closer attention to the nature of the relationships they enter into in the interbank markets.

They could, with benefit, scrutinise rather more closely over the longer term, establish better guidelines for themselves and have a better understanding and knowledge about the way the short-term funds are being used.

AP-DJ adds from Washington: Federal Reserve Board chairman Paul Volcker, speaking to the Senate Banking Committee, said that if lenders withdrew from foreign lending abruptly, financial crisis could be precipitous otherwise credit-worthy countries.

Mr Volcker said a "balanced, sound, long-range approach" is needed in foreign lending activities of U.S. banks.

Cubans to meet creditors on short-term debt

By PETER MONTAGNON, EUROMARKETS CORRESPONDENT

CUBAN officials are to meet with their leading international bank creditors in Paris on Friday in an effort to hammer out terms for the extension of more than \$300m (£135m) in short-term debt.

The talks form a vital and final part of the country's efforts to renegotiate its \$3.2bn foreign debt. Cuba has already reached a tentative agreement with its bankers on the rescheduling of some \$140m in medium-term debt due this year and agreed with Western governments to reschedule \$400m over 8½ years.

But the short-term debt talks are likely to prove particularly delicate because they will involve the conversion of interbank lines into full short-term loans. Cuba has told the banks that, unless they agree, it may have to revise other parts of

AMERICAN NEWS

Effort intensifies to secure end to fighting in Central America

BY HUGH O'SHAUGHNESSY,

INTENSE diplomatic activity is under way in Western Hemisphere and European capitals to find a negotiated solution to the fighting in Central America. The Left-wing Sandinista Government in Nicaragua, which has been accusing the U.S. Government of backing an invasion of its territory by counter-revolutionary forces based in Honduras, has

repeated its support for the "Concordia Plan" launched by the Foreign Ministers of Panama, Mexico, Venezuela and Colombia in January at their meeting on the Panamanian island of Cozumel.

The plan, which called for a halt to the supply of foreign military aid to the countries of Central America and the withdrawal of foreign troops from the isthmus, was also

backed by the Presidents of Colombia, Panama and Costa Rica who met in the Panamanian capital at the weekend.

For its part the military-dominated Government of Honduras, which was put forward by Sir John Thomson, the permanent British representative at the UN, when he chaired the debate in the Security Council

last month on the invasion of Nicaragua, has received increasing support.

It has been backed by France and is understood to have attracted the personal support of President Miguel de la Madrid of Mexico.

Britain is not expected to push its proposal ahead of any diplomatic initiative being taken by the countries of the region. At the same time,

Proponents of an increased role for the UN in Central America point to the fact that Sr Javier Pérez de Cuellar, UN Secretary-General, is an experienced Peruvian diplomat and that some policy makers in Washington realise that the OAS has neither the reputation of impartiality nor the diplomatic expertise to carry through a complicated mediation operation.

Andrew Whitley visits Grenada, described as a threat to the U.S.

Fear and resentment under the nutmeg tree

THE NOTICE on the wall of the reading room in Grenada's main public library is more menacing than the customary threats of fines for delinquent borrowers. There are three categories of workers: "the notables," "Pino, milita" and "comerciantes (sic): which category are you?"

The two-storey stone building on the harbour at St George's, Grenada's old fashioned little capital does not look capable of harbouring such Stalinist sentiments. Its dark exterior has the look of a Baptist chapel in the north of England. But then, Grenada as a whole does not appear to fit the description U.S. President Ronald Reagan has given it of being a threat to the security of the U.S.

An exhaustive tour of the atrocious roads which cross the hilly, heavily forested island threw up no trace of the alleged subversive base. Grenada is said to have set up, nor of the clandestine emplacements the U.S. President has said he fears.

As for the new \$71m international airport which Cuba is helping to finance and build—prompting Western concern that it could be used as a staging post for Cuban or Soviet "adventures"—the emerging runway and terminal buildings are plain for all to see. So, too, are the 250 odd Cubans working on the site.

Their target is to get the airport at least functional by next March in time for the fifth anniversary of the coup which brought Mr Maurice Bishop's New Jewel Movement to power in 1979.

"For those of you who haven't been to Point Salines recently, it is essential that you go and view the runway," Brother Bernard Coard, Grenada's Finance Minister and ideologue, told a mass meeting in February while presenting the 1983 budget. Many Grenadians do just that.

But while the Government dismisses the U.S. Administration's statements out of hand, it is still preoccupied by what it sees as the real threat of a "Bay of Pigs"-style mercenary invasion, backed by the U.S. Since the overthrow of Sir Eric Gairy, the elected Prime Minister who ran Grenada as his personal fiefdom, Mr Bishop's Left-wing Government has had to cope with the active hostility of Washington. In recent months the chorus of denunciations has been stepped up to such a pitch that many in Grenada fear Mr Reagan will have to act to back up his words.

The strike into Nicaragua by anti-Sandinista rebels supported by the U.S., has heightened tensions in its ally Grenada.

"This build-up of propaganda against us may lead to a hostile act," said Mr Unison Whitman, Grenada's Foreign Minister, adding that the army and militia were on the alert. A U.S.-backed force of exiles and

mercenaries is being trained in Miami, he charges.

Cuban assistance to Grenada in the military, technical and financial fields has been substantial.

One night last September, during an unusually long black-out at least six Soviet-built armed personnel carriers were brought sphere in secret. No longer will it be possible for 47 men armed with smuggled rifles to overthrow the Government, as the New Jewel Movement did.

Mr Bishop has made clear his intentions that he has no intention of allowing any opposition to develop. Up to 100 known or suspected opponents are being held without trial in a former barracks on the hill above St George's, a substantial number in a population of only 110,000.

There is no doubt that the Bishop Government is working hard to develop the country's agricultural resources and make for the survival of the Gain era. The World Bank, for one, has been impressed by the progress of recent years.

According to Mr Coard, unemployment has dropped from 49 per cent at the time of the coup to 14 per cent, economic growth last year was a creditable 5½ per cent, and living standards are rising.

Earnings from tourism are critical because of the large

and probably permanent external trade deficit. Last year's deficit of £CS101m (£25m) was double Grenada's total export earnings.

The principal exports of bananas (Geest, the UK company, is the monopoly buyer), nutmeg and cocoa have not done particularly well in recent years. Nor has the tourist industry.

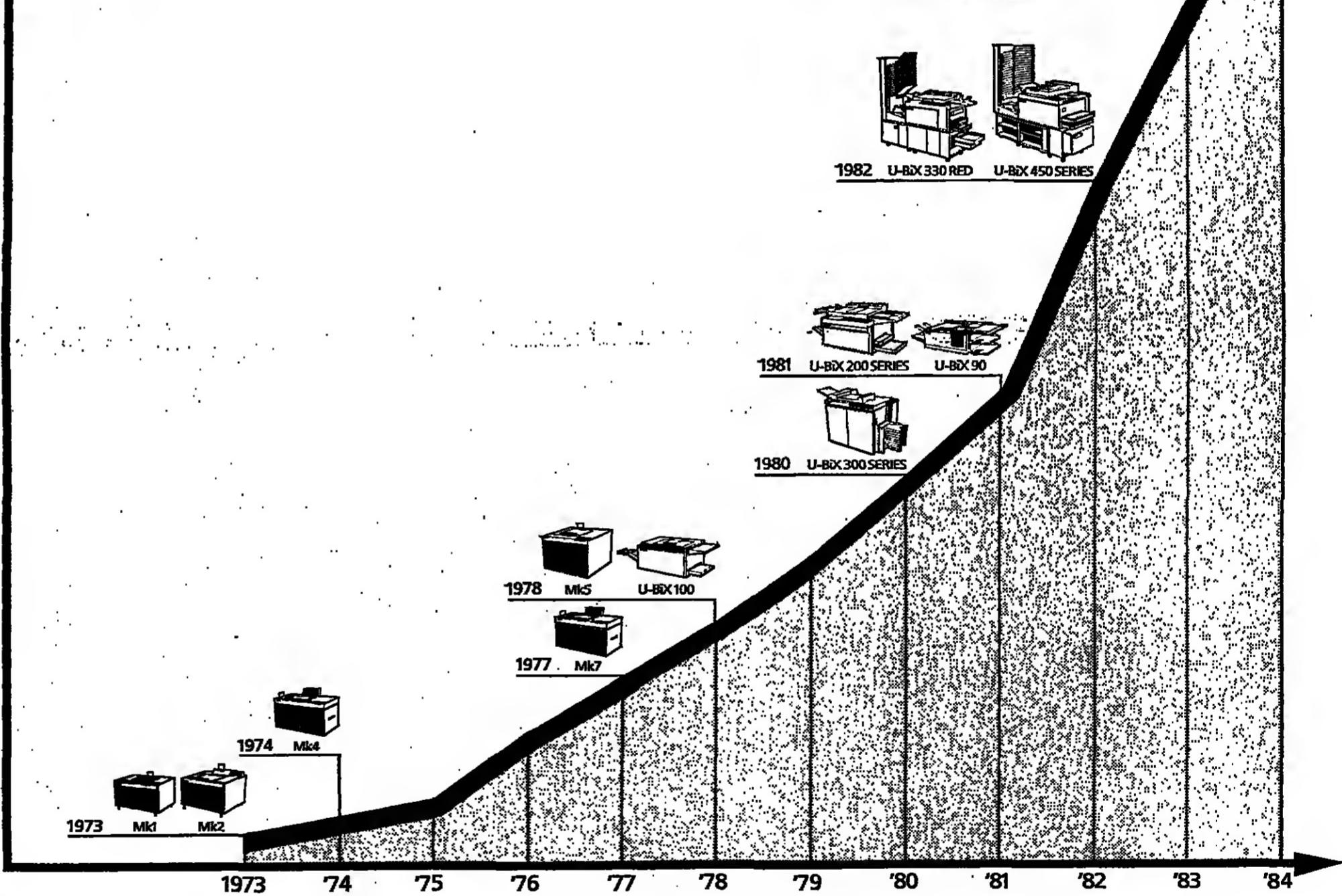
Meanwhile capital expenditure is growing at a phenomenal rate: up from £CS16m in 1978 to £CS101m last year. To fund the programme of civil works and fledgling industries, Grenada has inevitably become more dependent on foreign aid and loans.

Both the U.S. and Britain have refused to consider new assistance, while the Soviet bloc has, in contrast, stepped up its help with credits, equipment and long-term import commitments.

Nearly 40 per cent of this year's planned capital spending is earmarked for the new airport, designed to pave the way for a "new economic era" as the tourists flock in. Modern jets cannot use the existing tiny airport.

But whether Western tourists clutching hard currency will indeed pour in when the airport opens is very much an open question.

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UK NEWS

£20.4m loss for Inmos after high start-up costs

BY JASON CRISP

INMOS, the controversial state-backed microchip company, made a loss of £20.4m on sales of £13.7m last year but is expecting to move into profit in 1984.

The losses reflect the high start-up costs of the company intended to give Britain a presence in the mass-market microchip business. A major part of its costs last year was the establishment of a large, new semiconductor plant in Newport, Wales.

Inmos, founded in 1978, has received about £15m in backing from the Government in the form of equity, guaranteed loans and grants. At the beginning of this year the Government reluctantly provided the final £15m in equity. The company is expected to try to raise private finance before the end of this year.

Inmos sales rose to £13.7m last year from £2.4m in 1981. Sales in the first quarter of the present financial year are more than £5m, and for the full year are expected to be well over double last year's figure.

More than 80 per cent of Inmos's sales are in the U.S. where it manufactures most of its output at its first factory in Colorado Springs. Production at the second plant in Newport is being rapidly stepped up and a second shift is being recruited with a third expected to

start in September. Total employment is just under 1,000.

Inmos claims to have about 80 per cent of the market for fast static 16K random access memories (RAMS). (These are very specialised high performance memory microchips used mainly by the military but also in telecommunications.)

It recently entered the fiercely competitive market for 64K dynamic RAMS. Dr Richard Petritz, managing director of Inmos was optimistic about the market for these chips because of shortages.

Malcolm Wilcox, the retired banker who was appointed chairman of Inmos when the Government injected its extra £15m, refused to give any indication yesterday of when Inmos would seek private finance.

Inmos will try to find extra sources of finance to back its revolutionary and unproven microprocessor product the "transputer". It is claimed, the transputer will not only replace existing microprocessors but also be the building block for the so-called "fifth generation" of computers.

Inmos hopes to get Government support for the development of the transputer as part of its function in the fifth generation of computers.

See Page 18
Editorial comment, Page 16

Gloomy report on jobs under attack

By Gareth Griffiths

THE GOVERNMENT and the Confederation of British Industry (CBI), sharply criticised a paper produced for yesterday's meeting of the National Economic Development Council (NEDC) which argued there was no prospect of an increase in jobs during the 1980s.

Government representatives at the meeting of Government, industry and unions felt the report failed to consider the more favourable economic developments of recent weeks. The CBI also said the report gave an unacceptably depressing picture.

The National Economic Development Office (NEDO) has been told to specify details and sharpen up those issues which the NEDC should consider to help the economy achieve a better performance. These will be considered later, possibly next month.

The Government feels that NEDO has failed to consider the service sectors which it believes will create a great deal of employment.

Mr Geoffrey Chandler, NEDO's director general, said the fundamental assessment had not been invalidated by any changes since it was prepared.

The report draws together the assessments of the NEDC's 40 sector committees on their industries' medium-term and long-term performances to the end of the decade.

Training for the employed, Page 10

Duty-free sales likely to stay

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

SALES of duty-free goods for air travellers within the EEC seem likely to continue, after a change of mind by the European Commission.

These sales generate substantial business annually for airlines and airport authorities. The British Airports Authority (BAA) alone earns £74m a year from concessions at airports, including duty-free goods sales.

The EEC some time ago proposed legislation within the Community abolishing this facility, arguing that it was a privilege for air passengers denied to road and rail travellers.

After much lobbying by the BAA, airlines and others, including some governments, the European Commission has asked the Council of Ministers to legislate in favour of the duty-free goods trade and clarify the existing law.

A new "proposed draft directive" has been issued by the EEC, endorsing the principle of duty-free allowances within the EEC but retaining reductions in the scope of those allowances in some countries.

The draft directive specifies that the allowances in Britain for arriving

passengers would be the standard throughout the EEC.

Mr Philippe Hamon, the BAA's head of marketing, says this turnaround is largely the result of BAA's lobbying against the original proposal.

He says: "We still have a long way to go, as the proposals have to be thrashed out by the European Parliament, the Economic and Social Affairs Committee and a host of other officials, before the Council is able to make its decision - and the Ten Finance Ministers must be unanimous."

Mr Hamon believes, however, that the latest development is a step in the right direction, as two cases still before the European Court could lead to the abolition of the allowances, because of the ambiguous state of existing law.

He says: "The existence of the draft directive, we hope, will assist the Court in interpreting this law and avoid a ruling which would undermine the profitability of transport industries, causing a sharp increase in the cost of air and sea travel in Europe."

Midland Bank, which has two Lloyd's companies which have operated in the market for the last three years, said yesterday that under the new rules: "we are required to enter into a registrable legal charge against group assets under the Lloyd's proposals." The group added that this was not acceptable.

"We have a reputation for standing by our subsidiary companies without that sort of arrangement which could create a precedent in our other activities."

Midland said that it was not its policy to provide such a charge over its assets since compliance with the regulations could open the floodgates to a host of similar requests from other organisations.

The new rules came in force at Lloyd's in January when Lloyd's told insurance brokers that new trust deeds were to be executed in order to ensure that the U.S. dollar business was properly segregated away from their other activities and incorporated in their insurance broking account.

Lloyd's is expected to discuss the move by Midland and its two Lloyd's companies - Midland Group Insurance Brokers and Midland Bank Insurance Brokers - when it will be decided whether it is appropriate for the Midland's insurance broking operations to retain Lloyd's account because of the non-compliance with Lloyd's rules.

Visa gives larger role to banks

By Alan Friedman

VISA, the international payment systems group, yesterday announced a package of "strategic changes" in its policy which will result in the reduction of the Visa trademark symbol on plastic cards and an enhanced role for member banks.

Mr Jose Ribeiro da Fonseca,

general manager of Visa Europe, told the press that the change had resulted from discussions with member banks.

"This is our reading of the market's evolution rather than any political pressure," he commented.

In recent months a number of banks in the Visa network have complained privately that the organisation was playing too dominant a role in guiding the credit card policies of its banks. There is particularly violent opposition to the Visa organisation in West Germany, where banks have effectively barred the card and other Visa products and have allied themselves with American Express instead.

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Uphill struggle for Sotheby's suitors

STEPHEN SWID and Marshall Cogan, for all their involvement in the U.S. art gallery world, were hardly well-known in international art dealing.

They moved on-stage last December with the announcement that they had bought 14 per cent of Sotheby's, the London fine arts auctioneers, and yesterday stepped into the full glare of the spotlight with their £15m offer for the entire company.

The two Americans are having an uphill battle to establish their credentials with the shareholders and senior staff of a business which is as much a British institution as a commercial venture. Sotheby's management has as good as dismissed them as upstart manufacturers of carpet underlay with little knowledge of the art world.

Mr Swid, 42, and Mr Cogan, 45, by contrast stress the seriousness of their involvement in the U.S. arts scene and the high quality of designers who have co-operated in their furniture-making activities. Mr Swid lists connections with the Metropolitan Museum of Art and the Guggenheim Museum in New York, while Mr Cogan points to his links with the Museum of Modern Art in New York and Harvard University's Visiting Arts Committee.

Both men also have sizeable art collections of their own - Mr Cogan has an "eclectic" combination of pre-Colombian, early 20th-century European and American regional art, while Mr Swid has an American collection.

Asked about the value of their pictures, Mr Swid describes it as subjective. "It lies in the pleasure of looking at it," he said.

Both men are also keen to emphasise the role that high quality furniture plays in their business activities. Knoll International, the furniture side, had 1982 turnover of \$160m compared with \$150m from General Felt.

Ironically, but significantly, in the light of the present bid battle, Knoll International is not able to use its own name on its furniture in Britain.

One of the Knoll brothers, Frederick Parker, and Sons to make a type of tension spring in the 1930s. Some time in the late 1940s, Parker changed his name to Parker Knoll, and Knoll International, which has sold its furniture in the UK under the "Form" label.

Swid and Cogan attempted to persuade the Sotheby's board to approve an agreed bid for the company at a meeting on Sunday. The meeting, described by the Americans as "very formal, very British"

Midland ends \$ business at Lloyd's

By John Moore, City Correspondent

MIDLAND BANK'S approved Lloyd's insurance broking companies are withdrawing all their U.S. dollar business within the market because the bank does not wish to comply with new Lloyd's regulations covering dollar transactions.

Midland Bank, which has two Lloyd's companies which have operated in the market for the last three years, said yesterday that under the new rules: "we are required to enter into a registrable legal charge against group assets under the Lloyd's proposals." The group added that this was not acceptable.

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Both men are critical of the way the present Sotheby's board has managed the company.

A main reason for the offer is their shared concern "for a unique institution whose traditional

Charles Bachelet examines an welcome bid for one of the world's leading fine art auction houses

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The two Americans contrast this with the success of their own business which is based in Saddlebrook, New Jersey, but which employs 3,000 people in 15 factories around the world.

Since acquiring Knoll International in 1976 Mr Swid and Mr Cogan have expanded it from a company making \$1m pre-tax profits on turnover of \$60m to one with profits of \$15m on turnover of \$160m.

The two men own 33 per cent each of the holding company, GFI/Knoll, with the remaining shares held by 14 individuals and institutions, none with a holding of more than 5.5 per cent.

The bid for Sotheby's is being made through a newly-formed subsidiary, Knoll International Holdings Inc, which is 90 per cent owned by GFI/Knoll, with 10 per cent held by nine other investors.

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Midland
ends \$
business
at Lloyd's

/ John Moore, City
correspondent

LAND BANKS' insurance brokers are withdrawing from business within the bank due to the new rules covering dollar banking. Midland Bank, which is one of the companies which has been in the market for the last two years, said yesterday that the new rules, "were never intended to affect us".

Lloyd's said that it was not able to provide such large assets since compliance regulations could open the door to a host of similar or other organisations.

The new rules came into effect in January when all insurance brokers' deeds were to be issued to ensure that the business was properly segregated from their other activities incorporated in their trading account.

Lloyd's is expected to decide by mid-April whether its companies - Midland Finance Brokers and Midland Insurance Brokers - will be decided whether to leave the Midland's trading operations to reflect the change in rules.

**iggle fo
suitors**

by Sotheby's as "nothing more than a critical moment". Sotheby's had asked the company to explain the main reason for its shared concern for its future, where trading

shares Batchelor made a welcome bid for mid-1982 leading firm art auction house.

as the premier auctioneer worldwide under threat, through business decline over the last few years has become part of the market place. It is believed that the decline in smaller companies in the worldwide art market has resulted in a market collapse. So far, it appears to have affected art, but there's a lot of talk about oil painting.

Before

oil paintings rose from

£100 million to £150 million

in 1970. At the present

time, financial analysts

and economists believe

that oil painting

will continue to rise

in value.

Sotheby's

is a relative newcomer

to the art market.

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the oil painting

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UK NEWS

EEC attack on East Europe cement imports

BY MICHAEL CASSELL

COMMON MARKET cement manufacturers are combining in an attempt to halt the increasing amounts of cement imports from Eastern Europe.

The EEC liaison committee of Cembureau, the trade federation representing all European cement makers, has formed a working party to prepare an anti-dumping case to go before the EEC Competition Directorate.

In order to get imports banned, the working party will have to prove that the East European suppliers are selling at below production cost. The team, now urgently considering its case, is headed by Mr Gordon Marshall, Blue Circle Cement's chief executive.

The action follows evidence that cement makers in Poland and East Germany are selling increasing vol-

umes of subsidised cement to West German and UK customers.

The volume to date has been comparatively small but the West European manufacturers' anti-dumping initiative is intended to kill what is seen as a growing trade menace.

In the UK, foreign cement sales have been running at only 1 per cent of the market, which last year consumed 12.7m tonnes. There is concern, however, that the penetration could quickly rise, and in preparing their case the British will have to concentrate on the potential damage to their business.

West German cement imports into the UK have also risen, although British manufacturers can take no action against other EEC trading partners.

Rugby Portland results, Page 22.

Rolls in study of 'big thrust' engine

By Michael Donne,
Aerospace Correspondent

ROLLS-ROYCE is discussing with the world's airlines and aircraft manufacturers the possible development of a new "big thrust" aero-engine in the RB-211 series, called the 600.

This engine, on which some work has been done as part of the continuing development programme of the RB-211, would be aimed at future demand for engines of about 54,000lbs thrust and upwards.

It could be used in aircraft such as the Boeing 747 Jumbo jet, the Boeing 767 twin-engined aircraft, and the European Airbus A-300 and A-310, or derivatives of them.

It is, in effect, Rolls-Royce's answer to the development of the new Pratt & Whitney PW-4000 Series of engines, of between 48,000lbs and 60,000lbs of thrust announced late last year and the U.S. General Electric CF6-80 series.

rols by extensive automated check-

CAD tools are becoming mandatory, the report argues, because the number of devices in a very large integrated circuit precludes the hand-drawn approach.

Computer-aided engineering offered one of the greatest opportunities and challenges for the 1980s. The report says: "Because of the changing nature of the designer community, increasing pressure on manufacturers to use custom or semi-custom circuits, and the availability of low-cost powerful comput-

ing systems, the CAE workstations will have a dramatic impact on the way electronic designs are implemented in future."

By the mid to late 1980s sales of the workstations will be measured in tens of thousands as the price continues to drop.

Strategic Incorporated, report, Impact of New CAD Tools on the Integrated Circuit Industry, is available from International Planning Information, Norder Ringvej 201, 2600 Glostrup Copenhagen, Denmark, at \$1,530.

Fast growth for CAD tools

BY RAYMOND SNODDY

COMPUTER-AIDED design (CAD) tools for the electronic engineering industry will be one of the most dynamic growth areas in electronics during the next few years, according to a new report from Strategic Incorporated.

The computer-aided engineering (CAE) workstations market would grow at 81 per cent a year, and by 1987 the electronic engineering CAD would be a multi-billion-dollar business, says the report.

The dynamic growth would be caused by the need to bring new designs to the market in the shortest possible time while minimising er-

rors through national schemes and re-training those already in employment or about to start a new job, rather than into speculative training or training for stock."

"Providing the skills base for an economy which is not only viable but flourishing will be the most practical way to open up more opportunities for unemployed individuals."

The MSC reports: "At present over £200m per annum of public money is spent on training unemployed people under the TOPS scheme but there must be doubt whether all such speculative occupational training for adults is cost-effective in the present economic climate, either in helping them to get jobs or in providing a broad skills foundation that may help them throughout their working life."

The document adds: "Moreover, it is difficult to be certain that public money put at the disposal of em-

ployers through national schemes of this kind has secured extra advantages rather than being spent on training that would have taken place anyway."

It points out the moves the MSC is making to establish its 88 skill-centres and 20 annexes on a commercial footing. "The MSC is anxious to make what is offered in its skill-centres fully relevant to local requirements and will need views on how best to do so," it says.

Reform of adult training is one of three elements of a New Training Initiative being pursued by the MSC and the Government. The others are to update apprenticeship and provide better vocational preparation for school-leavers.

The number of semi-skilled and unskilled jobs has fallen by 1m in 10 years, and 1m more are expected to disappear by 1990. With quickening technological change, it is likely that in 10 years many people will be

using quite different skills in theoretical terms.

The MSC points out: "Our present system of training and associated education simply does not respond swiftly and flexibly enough to growing changes in skill requirements." "An economic upturn now would make this abundantly clear and reinforce the need to have a training system which assists the changes which are essential to the country's economic recovery."

The MSC is convinced that technology-based learning systems - like its Open Tech programme which will use a variety of teaching techniques - hold the key to making a reality of more flexible training.

Towards an Adult Training Strategy - Manpower Services Commission, Moorfoot Field, St Ives.

Editorial comment, Page 16

The changing face of Britain

Robin Pauley looks at life in the regions

Sharp rise in sales of vans and light trucks

By John Griffiths

COMMERCIAL VEHICLE sales climbed sharply in the first quarter of this year compared with the heavily depressed levels a year ago.

But the recovery was concentrated at the lighter end of the market, for vans and light trucks. There is still no sign of any sizable upturn for heavy truck makers, who have been hit hardest by recession.

Statistics from the Society of Motor Manufacturers and Traders show a 21.2 per cent increase in all commercial vehicle registrations in the quarter to 71,831 compared with 58,817 in the same period last year.

The recovery accelerated in March, which showed a rise of 27.3 per cent on a year ago at 27,468.

Within last month's total sales of light vans - those derived from cars - were up 35.8 per cent to 6,364. medium and heavy purpose-built vans were up 40.9 per cent at 11,728 and light four-wheel drive utility vehicles were up by 63.6 per cent at 1,278.

Much the biggest beneficiary in the light four-wheel drive sector was Land Rover, whose new One Ten model went on sale for the first time. Its sales jumped to 778 for the month compared with 481 a year earlier.

However, sales of heavy trucks - those exceeding 3.5 tons - showed an increase of only 3.5 per cent last month at 5,473.

For the quarter, the improvement in heavy trucks also just under 3.5 per cent, which means that this market is still performing at less than two-third of its pre-recession level. The financial position of some smaller truck makers looks increasingly precarious.

Gold Fields Group

MARCH QUARTERLY

All companies mentioned are incorporated in the Republic of South Africa.



BRIEFONTEIN CONSOLIDATED LIMITED

ISSUED CAPITAL: 102,000,000 shares of R1 each, fully paid.

	Otr. ended 31/3/1983	Otr. ended 31/12/1982	3 months ended 31/3/1983
OPERATING RESULTS:			
Gold - East Driefontein:			
Ore milled (t)	705,000	705,000	2,115,000
Gold produced (kg)	8,095.0	8,092.5	25,412
Yield (g/t)	11.9	12.9	12.0
Price received (R/kg)	16,281	15,532	15,303
Revenue (R/t milled)	152.84	147.30	194.36
Cost (R/t milled)	46.30	47.79	47.48
Profit (R/t milled)	106.54	139.57	136.88
Revenue (R000)	136,060	132,049	389,916
Cost (R000)	33,095	33,695	166,416
Profit (R000)	103,594	98,354	289,500
Gold - West Driefontein:			
Ore milled (t)	720,000	720,000	2,165,000
Gold produced (kg)	10,248.0	10,332.0	31,324.8
Yield (g/t)	14.2	14.4	14.5
Price received (R/kg)	16,063	15,652	15,317
Revenue (R/t milled)	229.24	226.33	221.85
Cost (R/t milled)	57.49	54.74	54.83
Profit (R/t milled)	171.75	171.59	167.06
Revenue (R000)	165,051	162,960	473,234
Cost (R000)	41,393	39,417	118,423
Profit (R000)	123,658	122,543	360,810
Uranium Oraids:			
Pulp treated (t)	317,000	316,400	353,000
Oxide produced (kg)	48,998	50,630	158,237
Yield (kg/t)	0.155	0.160	0.168
FINANCIAL RESULTS (R000):			
Working profit: Gold	227,255	221,857	650,366
Profit on sales of gold	2,424	2,187	3,023
Net sundry revenue	1,447	2,003	5,463
Net mining revenue	231,223	226,087	664,852
Net non-mining revenue (Rgroup)	21,390	21,533	81,217
Profit before tax and State's share of profit	222,693	221,600	726,963
Tax and State's share of profit	145,846	137,775	422,907
Profit after tax and State's share of profit	107,037	109,845	303,162
Capital expenditure	26,820	30,337	76,941
Dividend	—	107,700	107,100
Loan levy refund (1976)	16,568	—	16,568
DIVIDEND: A dividend (No. 19) of 105 cents (60.35523p) per share was declared on 7 December 1982 and was paid to members on 9 February 1983.			
CAPITAL EXPENDITURE: The unexpended balance of authorised capital expenditure at 31 March 1983 was R30.5 million.			
SHAFTS:			
No. 4 Shaft - E: The shaft was sunk 332 metres to a depth of 856 metres below collar.			
No. 4 Sub-Vertical Shaft: The hoists have been commissioned and work is proceeding on the provision of services to the levels in preparation for development.			
On behalf of the board P. R. Janisch C. T. Fenton			
11 April 1983			

DOORFONTEIN GOLD MINING COMPANY LIMITED

ISSUED CAPITAL: 10,000,000 shares of R1 each, fully paid.

	Otr. ended 31/3/1983	Otr. ended 31/12/1982	3 months ended 31/3/1983
OPERATING RESULTS:			
Gold:			
Ore milled (t)	420,000	420,000	1,260,000
Gold produced (kg)	2,545.0	2,680.0	7,921.5
Yield (g/t)	6.1	6.3	6.3
Price received (R/kg)	16,103	15,535	15,176
Revenue (R/t milled)	97.26	98.62	95.64
Cost (R/t milled)	48.00	48.77	48.70
Profit (R/t milled)	49.26	51.85	48.84
Revenue (R/t milled)	41,153	41,421	120,578
Cost (R000)	20,140	19,544	58,984
Profit (R000)	20,993	21,777	61,594
FINANCIAL RESULTS (R000):			
Working profit: Gold	20,992	21,777	61,596
Net sundry revenue	2,524	2,702	7,610
Profit before tax and State's share of profit	22,517	24,463	69,276
Tax and State's share of profit	8,098	7,322	22,175
Profit after tax and State's share of profit	15,493	16,147	46,101
Capital expenditure	8,839	9,454	22,899
Dividend	—	8,731	8,731
Loan levy refund (1976)	495	—	495
DIVIDEND: A dividend (No. 10) of 110 cents (63.22525p) per share was declared on 7 December 1982 and was paid to members on 9 February 1983.			
CAPITAL EXPENDITURE: The unexpended balance of authorised capital expenditure at			

TECHNOLOGY

EDITED BY ALAN CANE

HOW HERTZ SAVES MONEY ON COMPUTING

Bureau business still blooms

BY ALAN CANE

HERTZ EUROPE, a significant part of the world's largest car rental group, wanted to save money on its computing. Scicon, the UK's largest computer services company, wanted to break into new markets.

The result was an elegant variation on the familiar management theme which is now saving Hertz, at a conservative estimate, more than £250,000 a year, and which has opened Scicon's door to the lucrative IBM bureau business.

Facilities management (FM) has become a specialist form of computer services in several nations, notably Holland, which claims more FM deals in the UK than any other company.

As practised by these companies, it usually means, for a fee, taking over the running of a client's computer centre. The computer remains the property of the client. Full responsibility for the computer and its performance rests with the computer services company.

The Hertz deal is quite different. The company is using an IBM 4341 medium-sized mainframe, owned by Hertz and operated from its Milton Keynes computer centre.

The software which runs on the machine belongs to Hertz — written by the rental firm specifically for its own corporate needs.

Scicon is, in fact, managing Hertz's software facilities; in other respects the deal is a pure computer bureau operation — but at a fixed price.

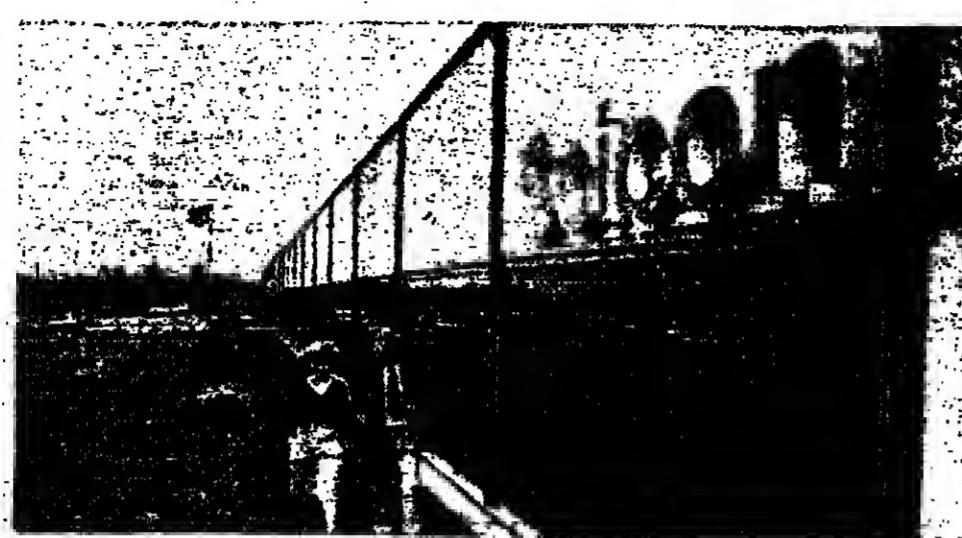
What makes the deal of special interest is Hertz's size: its revenues were more than \$1.5bn in 1982 — its almost total dependence on computers and its sophistication in data processing.

Director of management systems and services for Europe, Mr Jonathan Chapple, formerly management services director

JAPANESE TECHNOLOGY

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for Thomas Cook is one of the new breed of systems supremos who wears the hats of data processing director and telecommunications director simultaneously.

In world-wide data processing centre in Oklahoma City houses two separate systems — an IBM operation for mass file storage and a Sperry operation for reservations. Two transatlantic lines run from the UK to Oklahoma City; the group is thinking of installing a third to reduce its vulnerability to systems failure.

The company already makes extensive use of external computers. Modelling and analysis work is carried out on an Andraitx mainframe owned by the U.S. bureau NOSC. And more results from Hertz worldwide subsidiaries are consolidated onto the Geico Mark III computer network.

In Europe, the company operates a distributed computing system. Central accounting is handled by the Scicon IBM — each country has its own Texas Instruments minicomputers to carry out local processing.

The complication is that customers for car rental are billed in their country of origin, which means that the country subsidiaries have to operate a system called Euroswop — European debt swapping to reconcile their financial differences.

Why does Hertz need the central IBM? It has sites on some 70,000 customers in Europe held on the 4341 and used to keep the U.S. customer

file — with its 8m individual records — up to date.

It also handles centralised customer accounting — the heart of the Euroswop operation — and so runs the local receivables system for Hertz.

Third, it offers security which Hertz could not have provided without major changes. Scicon operates all the security measures expected of a large bureau including protection against lost or modified files through to defences against terrorism.

And fourth, it fitted Hertz data processing strategy. Up until recently these days, the company is decentralising computing applications that are presently running on the country TT mimic back onto the mainframe, starting with France. Hertz's first subsidiary in Europe.

"We decided to distribute mini computer power in 1978," Mr Chapple says: "When IBM launched the 4300 series it knocked such holes in the arguments for distributed processing that we decided to think again."

But there is still a need for local processing when the customer brings the car back and wants to see an itemised bill.

Hertz uses small Olivetti TC800 microcomputers in a system called Antechek which assimilates the rental agreement, adds the rental data and computes the final bill — all on a video screen so the customer can check every detail. Eventually these will be used to put transaction details directly into the system.

VIDEO AND FILM BY JOHN CHITTOCK

Soccer vandals look to TV

If TOP league soccer vanishes from British television screens on Saturdays and moves on to the video screens of pubs on Mondays — now a prospect — the football hooligans will have a new way of inflicting damage.

The screens used in many video projectors are usually finished with a metallised surface, highly susceptible to handling. Even conventional silver painted screens are not resistant to beer slops, and cinema managers all over the country can testify that the silver screen is a favourite target for all kinds of unsavoury missiles.

The closer proximity of a video screen in a pub will provide an inescapable temptation, no doubt. But if that is not problem enough, the screen-makers are forever conducting their own technical battle in improving the performance of screens.

An efficient cinema or video screen needs to be much more sophisticated than a white bed sheet suspended at the corners. Not only must it be free of wrinkles, which on the span of a screen is at least one of the world's cinemas poses a problem for a Perlux screen.

It must be also a highly efficient reflector returning to the audience as much as possible of the original light from the projector.

Harkness have recently developed a new silver screen for this purpose, Spectra 2000, which they claim has the gain and angular characteristics of Perlux. This screen makes its own premiere on Friday May 13 in London at the premiere of the new film Friday 13th Part III.

An even bigger premiere for Harkness occurs in June with the opening of the National Museum of Photography, Film and Television in Bradford. This exciting venture will probably not only with its first installation showplace for the media, but also its first Imax installation.

Video projection and the day-light use of tape/slide programmes has boosted activity in the development of screen technology. What everyone wants, of course, is a screen that will reflect back — even at all viewing angles — all of the light that the projector is throwing on it; but, at the same time, the screen must not reflect back ambient lighting from the rest of the room (a miracle achieved in some measure by using tinted

materials for the screen and highly directional reflecting surfaces).

Screen-makers thus have an extraordinarily difficult balancing act to perform. The record is rather gratifying to put on the record that one of the world leaders is a British company — Harkness Screens — who are probably the biggest suppliers of cinema screens worldwide. From white painted screens to silver screens, the company progressed, in the past 50 years, to developing the Perlux plastic screen — with gain (viz. light collecting efficiency) comparable to a silver screen but without the severe fall off in brightness at oblique viewing angles that occurs with silver.

Problem

Recent activity in the cinema, however, has posed a problem for the Perlux screen. It is that word 3D again. The conventionally used system of 3D cinema projection is now undergoing a reversal, with polarised light from the projectors (and Polaroid viewing spectacles). But the plastic surface of a Perlux screen has the unfortunate effect of de-polarising the incident light from the projectors, so that cinemas using 3D must now install metallised (e.g. silver) screens.

Harkness have recently developed a new silver screen for this purpose, Spectra 2000, which they claim has the gain and angular characteristics of Perlux. This screen makes its own premiere on Friday May 13 in London at the premiere of the new film Friday 13th Part III.

This Swiss system could be challenged soon by a small British company — Dwight Cavendish — who have developed a video projection system based on the modulation of a laser beam. A single ion laser passes through a three-way beam splitter — where each path is separately modulated and coloured with the appropriate red, green and blue signals — before recombining as a single, full colour beam.

This beam is projected on to the screen, at appropriate intensity, in a scanning pattern which reconstructs the original TV picture. The system could promise very bright, high resolution pictures so that video projection can et last seriously compete with the film projector. No doubt it will stimulate new ideas for screen surfaces — so the future for companies like Harkness could be bright, big, wide and silver-lined.

Imax system

From Canada, Imax is the spectacular film projection system first seen at the Osaka Expo in 1970. It uses 70 mm wide film not uncommon to commercial cinemas, but in a transverse film configuration so that the transverse film can provide a frame size that is both higher and wider. The Imax projector likewise runs the film horizontally, thus yielding bigger, brighter and sharper pictures

The good news is
FERRANTI
Selling technology

Sawing

Wood cutting

FORESTOR, the Hampshire company specialising in the design and manufacture of equipment for wood cutting, has designed a tractor mounted sawbench for rippling or cross cutting logs. Details of the unit which costs £819.50, are available from the company at Bloswood Lane, Hants (023682 2280).

Printer

Electrostatic plotter

VERSATEC, a Xerox subsidiary, has launched a full colour electrostatic printer plotter which it says is the first of its kind in the world.

Aimed at the computer graphics market the new model can produce a full colour A4 size drawing in eight minutes, or a black and white plot in less than 90 seconds. The resolution of the system is 40,000 points per square inch. More on 0635 42432.

Magnetics

High density data cartridge

DATAC ELECTRONICS, in magnetic tape data cartridge capable of high density 6400 bit per inch recording is now available from CPU Peripherals based at Shepperton, Middlesex. The model 300671 has a capacity of more than 17 megabytes of data and is aimed at the small business and data acquisition market.

The company says that it is the first fully tested and certified in cartridge on the market. More information of the system is available from Wallon on Thames 46433.

From under the bed to behind the curtain.

Newsweek

France

Throwing Out The Spies

The AIDS Epidemic: Plague of the '80s?
Opening a Second Front in Nicaragua

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THE MANAGEMENT PAGE: Small Business

EDITED BY CHRISTOPHER LORENZ

Funding for innovations at an early stage is becoming more readily available. Tim Dickson reports on two examples

U.S. technology opens the gate to wider markets

"THE £1.3m of new capital was admittedly a lot in anybody's book. But it seemed much easier getting hold of the money second time round than when I was trying to get started five years ago."

Looking back on his company's cash-raising exercise in the middle of 1982 Peter Barnwell's comments reflect as much the increased supply of venture capital in the UK since 1978 as the perennial difficulties facing entrepreneurs without a track record.

But to be fair to those who backed him the progress of his company, Corintech, has been highly impressive and the project for which they recently made available new funds looks exciting to say the least.

Corintech is primarily a designer and manufacturer of thick film hybrid microcircuits—microchips known as "hybrids" because they bring together semiconductors and thick film technology.

Components are assembled onto a ceramic based circuit made with a screen printing process at the company's Fordingbridge site in Hampshire. This produces a thin integrated circuit which in spite of its size performs all the functions of a standard printed circuit board.

"Hybrids" are used in a wide range of industrial, telecommunications and military applications and are distinguished by their extreme flexibility and versatility.

There is, however, nothing new about hybrids and there are plenty of competitors—parts of Racal, Plessey and Marconi to name but three. The independent Corintech on the other hand, has made its name by producing short and medium sized runs which the large "in house" operations traditionally have been reluctant to take on. (The recession has forced some big suppliers to come down market in this respect but Barnwell is confident that they will disappear when the good times return.)



Hugh Roundhead
Peter Barnwell with the design of a gate array integrated circuit on a Calma design station, the investment in which was funded by Barclays Bank, Murray Technology and the Department of Industry

Although exciting, the project is bound to be high risk and involves Corintech in extensive research developed by California Devices, a San Jose Corporation also founded in 1978, and investing heavily in new equipment. The rewards should be the ability to service the sort of customers which his big competitors neglect with a far wider range of technology than Corintech can call on at the moment.

"What we do," explains Barnwell, "is take a standard array and design the interconnect which makes it do a job. We are now able to take on contracts which were not viable with a hybrid, and most important, we will be able to combine them with a hybrid to form small but powerful digital/analogue packages."

ment of Industry put in £0.2m under the microelectronics industry support scheme.

"...only problem," recalls Barnwell, "was persuading people that the company needs as much as this. If we are lucky we won't but this is a very competitive business and we can't count on it."

The deal with California Devices and the investment in new equipment—notably a large computer-aided design facility which is really a glorified electronic drawing board—was funded from three sources: Barclays Bank, and Murray Technology, a Glasgow-based investment trust which made a £200,000 investment in Corintech in 1980, each contributed £0.5m while the Department of Industry put in £0.2m under the microelectronics industry support scheme.

At the outset, adds Barnwell, "we thought there would be a certain amount of synergy (with existing hybrids), representing 30 per cent of our work. But so far it is proving greater than expected and a lot of existing customers are showing keen interest."

The deal with California Devices and the investment in new equipment—notably a large computer-aided design facility which is really a glorified electronic drawing board—was funded from three sources: Barclays Bank, and Murray Technology, a Glasgow-based investment trust which made a £200,000 investment in Corintech in 1980, each contributed £0.5m while the Department of Industry put in £0.2m under the microelectronics industry support scheme.

Set up some 37 years ago, the BERA is an independent non-profit making body which concentrates on all aspects of fluid engineering research. It has 250 members covering a wide variety of industries and has subscriptions at £500 to £1,000 a time account for a merit 2 per cent of total income.

The rest comes from the sale of the association's range of services (largely sub-contracted R & D) and the fruits of general research funded by the likes of the Department of Industry and the British Technology Group (BTG).

"We live off our wits," observes Donald Bain, head of BERA's group marketing development.

"Normally when we find a new application we go to the BTG to raise some risk finance and apply for a patent. The chances are at this stage we have no idea whether the idea is technically or commercially viable so we will be working model to find out. If it seems to make sense we usually get a company to buy the licence and take the product on to the next stage."

Cutting loose from research

IMAGINE a high pressure water jet that rips through rubber like a knife through butter. Bear in mind too that its cutting edge is so ferocious—thanks largely to a cheap copper slag abrasive—that it will drill through reinforced concrete and a whole host of other tough materials besides.

Just such an invention is the basis of Fluid Engineering Products, a recently formed company which is an unusual partnership between the British Hydro-mechanics Research Association, an industrial research group, and English and Caledonian, a hitherto low key venture capital, organisation.

FEPI is at a very early stage of development—its prototype, for instance, is still being converted into a production model—but according to managing director, Stuart Letta, assembly is expected to commence in June following the company's imminent move from the campus at Cranfield Business School, Bedfordshire, to nearby Milton Keynes.

The story of how FEPI was formed offers an encouraging example of risk finance being harnessed to exploit the work of research scientists. Moreover, the project represents a new and ambitious departure from the BERA's normal practice.

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With money the most immediate problem six venture capital funds were approached at the end of last year. Three made firm offers but English and Caledonian was chosen,

says Bain, "because we felt that they had most to offer besides cash in the way of management support and advice."

E and C, which put up £180,000 for its 47 per cent stake in FEPI and a further £70,000 in the form of a medium



Stuart Letta: "FEPI has worldwide potential."

BHRA has been working on high pressure jetting technology since the early 1970s but when around three years ago its staff developed a cutting head of such considerable power and effectiveness the idea started to take root that for the first time it might capitalise on the results itself.

"We came to the conclusion," explains Bain, "that there are a wide number of applications for this type of equipment. There is clearly a big safety advantage in being able to use water jets for cutting materials where there is the danger of an explosion."

Adds Letta, a former executive with Ransome Hoffman Pollard (now RHP), the bearings and electrical products manufacturer, who was hired to direct operations. "We believe that there is worldwide potential in the mining, foundry, glass and contracting industries to name but a few, as well as in the emergency services field. There are very few companies in the high pressure water business dealing with all the customers we think might be interested."

Certainly Murray Johnstone, which manages Murray Technology, is pleased by the results so far. Judging by the valuations in the investment company's last annual report Corintech is currently a star in the unquoted section of its portfolio. Appropriately enough too since Barnwell was invited in 1981 to sit on the board of Murray Technology.

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"Normally when we find a new application we go to the BTG to raise some risk finance and apply for a patent. The chances are at this stage we have no idea whether the idea is technically or commercially viable so we will be working model to find out. If it seems to make sense we usually get a company to buy the licence and take the product on to the next stage."

With money the most immediate problem six venture capital funds were approached at the end of last year. Three made firm offers but English and Caledonian was chosen,

says Bain, "because we felt that they had most to offer besides cash in the way of management support and advice."

E and C, which put up £180,000 for its 47 per cent stake in FEPI and a further £70,000 in the form of a medium

In brief...

MANY SMALL businesses are beginning to recover from the effects of the economic recession, according to a recently completed survey. Two out of three businessmen polled said that they believed the next four months would be better for them and more than half forecast that turnover and profits would increase in real terms in the next half year.

The survey, carried out by Market Research Enterprises, also indicated improved prospects on the jobs front. More than a quarter of respondents said they expected to take on more staff this year. In contrast, only 8 per cent expected to have to cut back their workforces.

Around 75 per cent said they would like to see import controls imposed to aid the UK's industrial recovery. About the same number placed the blame for the UK being priced out of world markets on "excessive" wage increases, while about a half reckoned wage control made sound economic sense.

The survey, carried out for British Telecom's Europages, also revealed mixed feelings among small businessmen about the extent to which Britain had benefited from membership of the EEC.

ALTHOUGH the Companies Act 1981 allowed some concessions to help small companies in respect of information required for accounts filed with the Registrar of Companies, complicated new accounting rules were introduced for those full audited accounts required for shareholders.

Guidelines for implementing these accounting requirements are contained in a new publication from the Institute of Chartered Accountants in England and Wales called "Companies Act: The Effect on Small Company Accounts."

By using colour printing and example accounts, the publication illustrates the general appearance and content of accounts, together with information that may be omitted from "modified" accounts. Available from the Institute, Publication Department, P.O. Box 422, Chartered Accountants' Hall, Mincing Lane, EC3P 2BS, price £5.95.

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In brief

ANY SMALL business, beginning to recover, completed survey, three businesses said that they had been for four months, either for three years, ever and prove increase in real terms, ext half year.

The survey, carried market Research Institute, indicated on the job market, in a quarter of new staff they expected to have, only 8 per cent, have to cut back.

Around 75 per cent, they would like to see controls imposed on K's industrial wage rates, about the same, faced the blame, markets priced out of services, while slow, and economic control.

The survey, carried a British Telecommunications, revealed mixed feelings, small business, about the extent to which a ratio had been membership of DCC.

LTHOUGH the CAA et 1981 allowed missions to help, anomalies in information requests filed with Registrar of Companies, indicated new companies were introduced for the added accounts registers.

Guidelines for applying these aeronautic events are contained in publication from the Chartered Accountants Scotland and Wales Companies Act, a Small Company Act, using colour prints, illustrations of the appearance and contents, together, information that is omitted from the reports. Available to Institute, Public Sector Act, P.O. Box 53, Or Accountant's Hall, late, London EC2R, free £5.50.

1983 Whitbread Literary Awards judges named

Judges for this year's £10,000 Whitbread Literary Awards will be biographer Elizabeth Longford, screenwriter Frank Delaney, novelist and children's book writer Jane Gardam, and bookseller John Elyot, who is also president of the Booksellers' Association.

The awards are for three main categories: novel, biography or autobiography, and children's book. Each category carries a prize of £3,000. In addition, there is to be a special category, with a prize of £1,000, for the best first novel published during the year.

Spring into Dance at Sadler's Wells

Sadler's Wells Theatre is launching its fourth dance season ticket scheme, and the first to concentrate exclusively on contemporary dance. Under the title *Spring into Dance*, the season brings five major international companies to the theatre in the period from April 12 to June 11; the Joyce Tancer Dance Company, Laura Dean Dancers, a ensemble from America, Sankai Juku from Japan, Portuguese Ballet Galician and Britain's London Contemporary Dance Theatre.

Embassy acquires rights to 'Gandhi'

Embassy Communications International, a wholly-owned subsidiary of the Norman Lear and Jerry Perenchio-owned Embassy Communications, has announced the acquisition of the rights to the film "Gandhi" in perpetuity for television and cable transmissions in the U.S. and Canada.

Lord Grade, chairman of Embassy, said: "The deal was negotiated with Mr Jake Eberts, chief executive of Goldcrest Films and Sir Richard Attwooth.

Arts Guide

Opera and Ballet

PARIS

London Festival Ballet in Giselle and La Sylphide with Natalia Markova, Eva Evdokimova and Peter Schaufuss at the TMP-Chatelet. (261 1983). La traviata conducted by Alain Lombard at the Opera Comique. (236 0811).

Ensemble with Christine Eda-Pierre is combined with Palladium sung by Jon Vickers, Teresa Stratas and Jean-Paul Fauvel at the Paris Opera. (742 5750).

ITALY

Milan, La Scala: Carle Fracci in Sleepy Beauty; the world premiere of a work to Theodorakis choreographed by Maurice Béjart for his 25th Century Ballet. Lahesmin conducted by Claudio Abbado and directed by Giorgio Strehler.

LONDON

Royal Opera, Covent Garden: Don Carlos, a French Grand Opera, as last seen at Covent Garden in its original language, returns with a cast of newcomers to their roles (including Robert Lloyd and Thomas Allen) and Bernard Haitink as conductor. The Don Pasquale revival, with Geraint Evans in the title role, shows off two of today's most attractive light voices: Luciana Serra and the Latin tenor Francisco Araiza.

*

The guide also appears in extended form daily with particular emphasis on music (Monday), opera and ballet (Tuesday), theatre (Wednesday) and exhibitions (Thursday).

*

New York Dance/Merce Cunningham

David Vaughan



Cunningham: a riveting performance

Several New York critics have expressed surprise at the clearly dramatic nature of Merce Cunningham's recent work *Quartet*, first given in Paris at the festival d'automne last October and in New York during his company's recent season at the City Center Theater. Yet Cunningham has throughout his career made works with a palpably dramatic atmosphere, even if they lack specific narrative content—works like *Crises* (1960), *Winterbranch* (1964), *Places* (1966), *Rebus* (1975), *Exchange* (1978), and *Choreuchs/Inserts* (1981).

In the case of *Quartet* the atmosphere is full of dark forebodings. At the rise of the curtain Cunningham is discovered standing at the rear of the stage, his body bent over to one side. Three women and another man enter. They move for the most part independently of him, though occasionally they imitate his movements or Cunningham will find himself caught between two of the younger dancers. The *Quartet* is not theatrical as it might appear; it could be said that there are four "voices" Cunningham himself, one of the women (Helen) Barroo, replacing Susan Emery, on sick leave during the New York season, the second man (Rob Remley), and the other two women who are "twinned" (Judy Lazearoff and Karen Flink, in the role originally danced by Barrow)—twice, they form a fan-like cluster with Remley, one hanging away from his body with the other echoing the position from behind him.

Perhaps it is not even too fanciful to suggest that, like

Bach's last quartet, this piece is a meditation on profound, even tragic matters. Certain of Cunningham's movements are painful to watch, as when he shuffles forward on his knees, repeatedly falling to one side. Towards the end, after a small final paroxysm, he passes unnoticed from the scene.

In the few moments that remain the other dancers' movements revert to the restricted, almost robotic shifts of logic, with which they began, as though their independent existence still depended on his presence.

Cunningham's own performance is riveting, but the younger dancers also perform the piece with a clear sense of its seriousness and importance. *Quartet* shows the other side of the coin from *Gallopade*, first performed

in London two years ago, which also dealt with the fact that Cunningham is older and less agile than the rest of his company and somehow managed to be hilarious about it—one was reminded of W. C. Fields's remark, "I never saw anything that wasn't terrible." Mark Lancaster's clothes, in solid crimson, blue, and green, and his lighting, which is "rather darkened visibility," contribute to the sombre effect, as does David Tudor's unworldly subdued sound-score.

The other new work this season, *Cost Zone*, the latest in Cunningham's work originally choreographed for the camera in collaboration with the director Charles Atlas and then adapted for the stage. The film version reportedly makes extensive use of close-

ups (which Cunningham and Atlas have used sparingly up to now) and of 360-degree camera movements. The title of the piece suggests that, as in certain other Cunningham dances, the imagery is derived from topographical observation, and he has been quoted as saying that he was thinking of "shifting sandblasts, and beaches."

It goes without saying that such natural phenomena have undergone a process of abstraction in the choreography (though Larry Austin's score is made up of aqueous sounds).

This is one of those works of Cunningham's that do not yield up all their secrets at the first or even the second viewing, whereas the impact of *Quartet* is immediately felt and overwhelming.

strong on analysis, whether political, social, economic or geographic. The time was ripe for a long and sober look at the whole sorry mess and Vietnam, the dust behind a white-starred American tank, and a South Vietnamese police chief firing a revolver into the head of a Vietcong officer, for instance. The odd thing is that although Vietnam is sometimes described as "the first war fought on television," all those indelible images come from newspaper photographs.

Despite television's heavy involvement in the war, the medium did actually serve the viewer quite poorly, while the cameras, on the other hand, captured what should not be seen. And once the war was over it was cinema which brought us *Apocalypse Now* and *The Deer Hunter*. Even those works, though studied in their emotional responses, were not too shall have been very well served indeed.

What the series presumably cannot do is keep up the level of surprise achieved by *Quartet*.

How many viewers realized that in 1945 American military advisers supported Ho Chi Minh and his Vietnamese nationalists in their resistance against the Japanese invaders?

How many were aware that in that same year Ho announced the formation of a "Democratic Republic of Vietnam" with a declaration which began "All men are created equal; they are endowed with certaininalienable rights . . . ?"

Having so recently watched the dramatised reconstruction of America's shamefaced scramble out of Vietnam in 1975, one may in disbelief wonder if the Vietnamese nationalists' ideals were modelled on those of the American republic.

Having so recently witnessed the original drawings set right in comparison with engravings based on them, the impression given in engravings that Doré's tonal transition escapes even the half-tone block in the catalogue. There may be, in such studies, a

teeming of figures half-indicated

pencil, not proceeded with but also not entirely obliterated in the ensuing development of the drawing and still charging with their vitality.

Delicacy, good taste, tact are not however consistently ubiquitous qualities of Doré's work. His very profusion is no doubt symptomatic of some lack of self-criticism, nor will his subject matter always appeal to all tastes. But then neither does Rabelais find universal approval, though Rabelais himself I suspect would have enjoyed Doré's characterisation of the appalling giant-child Panurge, while Doré's illustrations to Balzac's *Contes Drolatiques* are remarkably (sexually) explicit compared with those provided by later illustrators like de la Bessière.

On the other hand, I find it difficult to contemplate without wincing Doré's excursions into sculpture as represented in this show. If technically virtuous

ingenious, and the figure of the knight in full armour going leap-frog over a stooping monk

whatever its original

Rabelais could not be surprised.

One aspect though that

remains to be seen is the

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FINANCIAL TIMES

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Tuesday April 12 1983

Mr Reagan's failure

THE REAGAN peace plan for the Middle East never stood much chance of success. The failure of Jordan and the Palestine Liberation Organisation to agree to a joint approach to negotiations is largely the official obituary of a scheme in which most Middle East countries had ceased to believe. Even President Reagan himself has shown only sporadic enthusiasm for taking political risks in order to increase the chances of his plan's success.

The plan, as propounded last September, envisaged King Hussein negotiating with Israel on behalf of the Palestinians with the aim of securing autonomy for the West Bank and Gaza in association with Jordan. From the beginning it was rejected by Mr Menahem Begin, the Israeli Prime Minister. U.S. officials have accused him of delaying Israel's withdrawal from Lebanon and speeding on Israeli settlements on the West Bank in order to undermine President Reagan's plan.

The reaction of the PLO to the scheme was generally negative but more equivocal. Mr Yassir Arafat, the PLO's chairman, tried to keep his options open despite militant pressure from Syria and his own hardliners. Just how far the latter are prepared to go was underlined on Sunday when Mr Issam Sartawi, a leading PLO advocate of dialogue with Israel, was gunned down while attending a conference in Portugal.

Weakness

But the fatal weakness in the Reagan plan was not the influence of the PLO hardliners. It was rather the more general belief among Palestinians and Arabs states that the U.S. is not willing to put sufficient pressure on Israel. For this reason King Hussein demanded that Washington should get Israel to agree to pull out of Lebanon and to freeze the settlements on the West Bank before he would join talks. Neither has occurred.

Possibly Israel's supporters in Congress would have prevented any real pressure being placed on Mr Begin to change his policy. In any case the administration did not try very hard. In Israel and the Arab world the belief grew that the peace initiative was a cosmetic exercise and this reduced its credibility. For that President Reagan must bear much of the blame.

A strategy for adult training

"OUR present system of training and associated education simply does not respond swiftly and flexibly enough to growing changes in skill requirements." Few if any voices will be raised in dissent to that statement by the Manpower Services Commission yesterday in its discussion paper on the desirability of improving the working skills available among the adult population.

The sentiment is one which has commanded virtually total agreement in Britain at least since the Crowther Report of 1959. Over the intervening quarter-century there have been several attempts to make the country's arrangements for training and associated education sufficiently flexible and responsive to deliver the skills required.

The hope in the 1960s was typically to achieve the desired end by governmental measures. The main outcome was the statutory establishment of a network of industrial training boards, each empowered to levy employers in its industry for funds. Most of the money would be redistributed as incentives in the form of grants to employing organisations whose training activities gained the board's approval. This approach has been reversed by subsequent Conservative governments which have successively dismantled the machinery and returned the responsibility for training to the employing concerns themselves.

The commission's latest analysis of the problem is unusually frank — for a body representing central and local government and trades unions as well as employers — in admitting that neither of the approaches has succeeded. The document also acknowledges that the problem of ensuring a sufficiency of appropriate skills cannot be overcome entirely by training and associated education alone.

Employers often starve themselves of an adequate supply of the skills they need by restricting recruitment and training to people with high academic qualifications, even though these have been shown to be unnecessary for the achievement of competence in the work at issue. A similar effect arises from unions' restrictive practices. Neverthe-

Without heavy pressure from Washington there is no reason for Mr Begin to make concessions to the Palestinians or anybody else.

This much was obvious last September when President Reagan first put forward his plan. It was also clear that he would have to take the difficult decision to offend some of Israel's political allies within the U.S. if he wished to convince the Arabs that he was serious. He failed to do so and thus undermined those on all sides who wished to start negotiations.

Even as the PLO should have allowed King Hussein to start talks, it has little enough to lose at the murdered Mr Sarwan was found or pointing outside Okinawa in southern Japan, are on the point of being submitted to clinical trials of two substances, tumour-necrosis factor (TNF) and carcinogen-inactivating factor (CFI) — either of which could provide a breakthrough in the treatment of cancer.

The Hayashihara Group, a century-old family dynasty of which Mr Hayashihara is president, is not strictly representative of Japanese pharmaceutical companies or of any companies anywhere, for that matter. The family itself has a long philanthropic tradition and began its research into life sciences after the 19-year-old Hayashihara took over the reins of the company following his father's death from cancer in 1964.

The company does, however, exemplify the intensive research and development work being conducted within Japan in the life science field and the country's sudden emergence as an international force in pharmaceutical drugs, an industry which has traditionally been dominated by U.S. and European companies.

According to Mr Robin Gilbert of stockbrokers James Capel, the Japanese pharmaceutical industry now accounts for roughly 20 per cent of all drugs under development in the world. A decade ago, he believes, the figure would have been no more than 1 per cent.

Compared with the giants of the industry worldwide, the Japanese companies are still in the second division. Only one company, Takeda, could claim a place among the top 20. Until now, the Japanese have been constrained by the domestic emphasis of their marketing and the distance which they have needed to make up in research. Increasingly, however, they are turning their attention to the international markets. If the strategy proves successful, the Japanese drug industry might rival that of the U.S. by the end of the century.

Growth on that scale would, however, necessitate dramatic changes within the Japanese drug industry itself. At present, the country boasts 385 manufacturers of ethical pharmaceutical drugs, with no single company accounting for more than about 5 per cent of the market.

The remarkable growth in numbers testifies to the speed with which Japanese companies

less, while such blockages can be removed only by the management and unions directly concerned, the commission remains sure that it has a decisive part to play "through public intervention in the vocational education and training systems."

It is less sure, however, about what forms the intervention should take. Instead of building on previous experience with a programme for definite action, the document confines itself to appealing for the views of other interested parties on questions which take us back to the beginning. For example, should future strategy "concentrate upon developing a system of training and associated education for the medium term that will prevent problems in the future, or attempt also to deal with immediate problems caused by structural changes in the economy?"

That question would have been non-controversial even a quarter century ago. The almost unanimous answer would simply have been: "Both." The only live issue for decades has been how the necessary improvements in work skills can be achieved.

To be fair to the commission, short-term questions such as what skills are now most needed and which training methods can best develop them are too intricate to be answered accurately by a central agency.

It is therefore wise in this respect to seek advice from bodies more closely in touch with the problem while confining itself to broader tactical suggestions.

On the longer-term question of how training and education policy can guard against further deficiencies in future, neither the commission nor the Government can plausibly claim a need for more advice. The steps required have been set out cogently, not least by the Government's Central Policy Review Staff as recently as May 1980. The only need is for the political will to implement the long identified remedies, including healing the split by which education under the Department of Education and Science is treated as largely separate from the training activities which are the responsibility of the Manpower Services Commission.

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THE Fujisaki Institute would not be out of place in a James Bond film. Fitted out like a luxury hotel and swarming with white-coated scientists, the laboratory complex is the idiosyncratic creation of an extremely wealthy and determined Japanese individual.

Like Dr No, Ken Hayashihara has breathtaking ambitions. The difference is that his technology is harnessed to humanitarian ends, while his chances of success look far greater than those of Bond's evil adversary. His most immediate goal is to discover a cure for cancer using domestic hamsters.

That is not as fanciful as it may sound. The scientists at Fujisaki, situated a few miles outside Okinawa in southern Japan, are on the point of being submitted to clinical trials of two substances, tumour-necrosis factor (TNF) and carcinogen-inactivating factor (CFI) — either of which could provide a breakthrough in the treatment of cancer.

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The remarkable growth in numbers testifies to the speed with which Japanese companies

JAPAN'S LEADING COMPANIES

	(% share of Japanese pharmaceuticals market)
Takeda	5.4
Shionogi	5.3
Fujisawa	4.7
Sankyo	4.1
Eisai	3.5
Talho	2.9
Green Cross	2.6
Yamanouchi	2.5
Meiji Seika	2.5
Daiichi	2.5
Chugai	2.3
Tanabe	2.3
Kyowa Hakko	2.2
Toyo Jozo	2.0
Osuka	1.9
Pfizer	1.7
Banyu	1.5
Toyama	1.5
Mochida	1.5
Bristol-Meyers	1.4

Source: Industry estimates

respond to the emergence of growth industries. Many of the leading forces in the sector have arrived there from industries which were perceived to be either mature or in long-term decline. Hayashihara himself started life as a manufacturer of starch and remains primarily a producer of sophisticated food ingredients.

One of the most striking examples of diversification is provided by Ajinomoto, one of the country's largest food manufacturers. The company has applied its existing fermentation techniques to the area of biotechnology and is also entering the ethical drug market.

National health insurance covers virtually the entire Japanese population and pays for about 90 per cent of medical costs. The price of ethical drugs within the country is determined through a system known as the "reimbursement price mechanism".

The therapeutic value of a new product is examined by reference to a comparable drug and its base price is then set at a premium, the size of which is determined by its apparent merits to the existing product.

Rather than paying the company directly, the Government reimburses the prescribing physician at the given rate and the physician himself pays the company — after taking a negotiated commission. In practice, the manufacturer would typically receive 65 per cent of the posted reimbursement price.

As a product matures, the reimbursement price is revised downwards towards the market price, limiting the profit margin for manufacturer, wholesaler and physician.

Besides placing great stress on the constant development of new products, which carry higher margins, this system leaves a great deal of influence in the hands of physicians. The Government is constantly revising the detail of the machinery but the reimbursement price mechanism remains at the core of the Japanese drug industry.

The structure of the pharmaceutical industry in Japan tends to encourage fragmentation and to place great strains on R & D departments. These strains have, on a few occasions, proved too great, resulting in the most celebrated example is that of Nippon Chiesi, a medium-sized pharmaceutical company which last year

admitted submitting false data in no fewer than seven drugs in order to secure official approval.

More generally, there is a danger that Japanese companies will spread themselves too thinly in their research and development work. Yamamotochi, a middle-ranking but rapidly growing company in the sector, is conducting research work in eight different areas, from antibiotics to biotechnology.

The group is already spending Yen 800, or 8 per cent of sales, annually on R & D and expects the proportion to average over 10 per cent during the next five years. Yamamotochi's president, Mr Shigeo Morita, is quick to justify this snapshot approach.

He says it is important that research divisions are highly competitive with each other and expects each year, to select two out of the eight areas for further heavy investment.

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Two, in Hayashihara's view, are likely to be more powerful than interferon.

By the middle of this year, Hayashihara expects to be "farming" 50,000 hamsters, half the world population of laboratory hamsters, and sufficient to produce meaningful quantities of both CFI and TNF, its anti-cancer substances.

Hayashihara is by no means the only company working on TNF. It was first developed in the U.S. in the mid-1970s but no method of effective and economic purification and production has until now been found. CFI, probably the more promising of the

PHARMACEUTICAL SALES

WORLD MARKET 1982

UK 3-4%

Italy 3-4%

U.S. 20-7%

Japan 14-4%

West Germany 7-1%

France 5-3%

Others 4-5%

TOTAL \$80bn

Source: *Industry estimates*

Brussels

it is developing sophistication of existing products which do not fully justify the development cost rather than making fundamental breakthroughs which more concentrated research in the U.S. is likely to yield.

So, in order to cover its R & D expenditure, the industry needs to seek out international markets. Japanese companies have already put their toe in the water, establishing licensing and partnership agreements with U.S. and European counterparts. Even so, Japan remains a substantial net importer of pharmaceutical drugs.

This situation is likely to change. Japanese expertise was concentrated a few years ago in the antibiotics area but, according to Mr Toshiaki Sada of the Nomura Securities Company in Tokyo, is now broadening to cover a wide range of products, including cardiovascular and anti-cancer agents.

The dilemma for the Japanese industry is whether to proceed in the early stages with cross-licensing agreements, joint ventures or direct marketing.

The disadvantage of the first option is that the return to the Japanese company is likely to be very small, with most of the profit going to the foreign marketing partner. The joint venture route might produce higher profits but would result in the surrender of technology to the partner company.

Eventually, Japanese companies may opt to establish their own substantial marketing forces in target countries. That would only be economical, however, if the volume of sales was sufficient to warrant it. Yamamotochi estimates that its foreign sales will total \$100m in five years time, but this would still not be sufficient to justify the development of a sales team which could compete head-on with that of, for example, Eli Lilly or Smith Kline.

The Japanese drug companies must certainly have learned from other successful industrial sectors — most notably the motor companies — of the advantages of economies of scale in developing overseas markets. For the time being, progress will be slow.

But, over the longer term, the Japanese industry may overcome its historic resistance to mergers and takeovers, leading to an industrial concentration which would provide the financial muscle for full-scale international expansion.

At the same time, the structure of the domestic market is likely to loosen, while research and development work may need to become more carefully targeted.

In order to secure outlets for their products overseas, the Japanese may have to make their own market more accessible to foreign companies, which are at the moment confronted by very stiff registration procedures and a tortuous distribution system. One thing, however, is certain. By the end of the century, the Japanese industry will be equipped with an armory of products to take on a world market worth \$80bn a year and growing fast.

THE HAYASHIBARA HAMSTER

HAYASHIBARA has developed a strain of hamster which can be multiplied almost ad infinitum. In the past, hamster multiplication has been complicated by the tendency of mother hamsters to eat their young when disturbed.

By varying the stimulants and developing new cell combinations through cell fusion technology, Hayashihara is able to extract a wide range of different substances from the hamster. Although these are secreted in minuscule quantities, the company is able to produce them on a commercial scale

simply by increasing the number of hamsters.

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SECTION II - INTERNATIONAL COMPANIES FINANCIAL TIMES

Tuesday April 12 1983



Value Line share sale likely to raise \$150m for family

BY RICHARD LAMBERT IN NEW YORK

before the British bruising with American shareholders dismissed by Searle as "ridiculous" and with cash and paper worth \$150m or more.

Arnold Bernhard and Co., a company controlled by Mr Bernhard and owned by him, his family and some employees, is offering 1.8m shares of the 10m shares outstanding in Value Line at a price which is estimated in the prospectus at between \$15 and \$18 per share.

In the 10 months ending in Feb-

ruary, Value Line's net income rose from \$3.4m to \$5.8m, or 58 cents a share. Shareholders' equity at the end of the period amounted to just \$2.5m or 45 cents a share.

The company is coming to the market on the sort of price earnings multiple which is more often associated with Silicon Valley than the less chic parts of New York's Third Avenue.

However, Value Line is an extremely profitable business and is the kind of company that makes a lot of money in a bull market. Its

flagship is the Value Line Investment Survey, a weekly publication which builds up into a two-volume set of binders packed with charts, ratings and opinions on each of 1,700 common stocks, classified into 62 industry groups. A one-year subscription costs \$365 and the survey has 111,400 subscribers, up from 68,000 five years ago.

In addition, the company publishes analyses of special situations on the over-the-counter market, as well as of options and convertibles. It also acts as investment managers of six mutual funds, which had net assets under management of \$1.2bn at the end of February.

IBH aims to wipe out losses this year

By John Davies in Frankfurt

IBH HOLDING, the West German construction equipment group, is aiming at least to break even this year after making a loss of between DM 50m and DM 65m (\$26.7m-\$24.6m) last year.

The group's optimism has been boosted by signs of an upturn in its markets in West Germany and the U.S.

IBH has attributed last year's loss - a turnaround from a DM 2.3m net profit the previous year - to severe price competition in flagging markets and costs arising from restructuring.

The group has grown rapidly through takeovers into one of the biggest construction equipment manufacturers in the world, after being set up by Herr Horst-Dietrich Esch, the chief executive, eight years ago.

Sales revenue rose 4.8 per cent last year to DM 2.5bn and the group is aiming to lift sales this year to DM 2.7bn.

As part of the rationalisation measures last year, the worldwide workforce was reduced by 20 per cent to about 10,000.

Although most restructuring is over, the group plans some further measures this year, involving a cut of about 600 in the workforce.

Herr Esch, who disclosed the extent of the group's loss at the Munich construction equipment exhibition at the weekend, is pressing on with development projects, including major new plants at Hanover and Hamm in West Germany.

He has indicated that the group will round out its product range in the future largely through its own efforts.

The equity base of IBH Holding was widened last year from DM 17m to DM 54m. As part of this process, a Saudi Arabian group took a stake of about 20 per cent and Babcock International of the UK a 10 per cent stake.

The group was formed by merging troubled state steel interests with those of two privately owned companies.

Saga Petroleum in bid to solve cash crisis

By FAY GJESTER IN OSLO

SAGA PETROLEUM, smallest of the three Norwegian companies with offshore oil and gas interests in the Norwegian sector of the North Sea, is facing severe liquidity problems.

It needs a large state loan to tide it over a cash flow crisis, and the Government's condition for granting this is that Saga should join forces with Norexplore, a provisional nine-company grouping which has been seeking the status of the fourth "accepted" Norwegian oil company.

Yesterday Saga made an offer to six of the nine companies in the group, outlining the terms on which it would be willing to link up with them. In return for shares swapped and fresh capital, 45 per cent of the equity in the new, enlarged Saga would come under the control of the four years ago.

These include four leading industrial groups - Borregaard, Norgas, Halshund and Dyno - plus two small Norwegian oil companies

which so far have participated only in oil ventures outside Norway.

None of the six was yesterday prepared to comment on the offer, which is open only until June 30.

Saga's troubles arose before Easter when its bankers indicated that the market was not prepared to provide a 12-year, \$900m loan to refinance existing debt and to coverSaga's offshore investment commitments. Saga has stakes in a number of projects which are potentially profitable - providing that oil and gas prices do not collapse completely. But international bankers are wary of energy loans.

The six-bank consortium which last August attempted to arrange the loan now says that Saga must increase substantially its equity before funds will be forthcoming.

At present, Saga is the only wholly privately-owned Norwegian company working offshore. The other two active groups are state-owned Statoil and Norsk Hydro, in which

the state holds a controlling interest.

Norexplore had applied to the Government for a stake in the promising Oseberg oil and gas field, which would have made it Norway's fourth "accepted" oil company, and the second to be completely controlled by private interests.

The Government had hoped to approve this application as a way of strengthening private enterprise in Norway's oil industry. Saga's financial troubles made it unlikely, however, that the Storting (parliament) would agree to give valuable licensed shares to a second private company.

The additional share capital that Norexplore's backers can contribute - some Nkr 337.5m (\$47.1m) worth according to Saga's proposals - will not by itself be enough to solve Saga's liquidity problems, however. The Government may have to lend the enlarged company as much as Nkr 1bo as subordinated capital.

It would also get 20 per cent of the shares in the new corporation, which would operate the building materials business under its present management.

GAF said over a year ago that it was considering a sale of its building materials interests and Morgan Stanley, its investment banker, has contacted more than 70 potential purchasers in the intervening period. The bank said late last month that six companies had expressed an interest in acquiring the whole of GAF, but had held back "principally because of economic concerns relating to the building materials group, and concerns of potential buyers in respect of asbestos-related claims."

The dissident shareholder group, which intends to continue the proxy fight despite the proposed sale, wants GAF to sell its chemicals business rather than its building materials side and distribute the proceeds to shareholders.

GAF plans to sell building business

By Our New York Staff

GAF Corporation is proposing to sell 80 per cent of its building materials business for cash and paper worth about \$140m. The move comes in the middle of a vicious proxy fight for control of GAF's management, which will come to a head at the annual meeting scheduled for April 26.

If the deal goes through, GAF will be left with a profitable specialty chemicals business, with annual sales of about \$300m, and a 20 per cent share in the building materials group, which had an operating loss of \$20m in 1982.

The proposed sale, which is subject to the approval of GAF's investment bankers, is being structured in the form of a leveraged buy-out. GAF would receive \$100m cash, and a note of the acquiring corporation with a face value of about \$40.5m, secured by a second charge on all assets.

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Japan relaxes bank regulation

BY YOKO SHIBATA IN TOKYO

THE JAPANESE Ministry of Finance is to relax the regulations governing the off-branch installation by Japanese banks of automatic teller machines and cash dispensers, as well as those governing the introduction of portable computer terminals linking the banks with corporate customers and customers at home.

The main feature of the authority's third round of financial deregulation is the introduction of computer terminals through which the banks can offer cash deposit and withdrawal services for the customers at home. The terminals will make their debut in the summer, but for security reasons the number of terminals will be limited to 30 per bank for the first year.

Each bank, however, will be allowed to install public cash dispensers and automatic tellers in only eight locations each year, and only three of each in offices or factories in the first year.

Companies are also authorised to send payroll data direct to banks by computer. Such data transmission has been prohibited up to now, so corporations have had to carry

magnetic tapes physically to the banks. Direct credit using magnetic tapes is expected to reduce payment transaction costs for both corporations and banks.

The data transmission rules will pave the way for new banking services for corporate customers. Yamaha Motor and Bank of Tokyo will be linked from next month by computers which will provide data on foreign exchange transactions. Yamaha plans to set up similar systems with Dai-ichi Kangyo, Sumitomo and other banks.

Other big corporations such as Mitsubishi and Sumitomo are planning similar systems from this summer for quick confirmation of bank balances and remittances.



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Banque de Paris et des Pays-Bas (Paris) S.A.	Barclays Bank Group	Bayerische Hypotheken- und Wechsel-Bank	Bayerische Hypotheken- und Wechsel-Bank	Bernier Bank International
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E. F. Hutton International Inc.	EWI International Limited	Kleinwort Benson	Hambros Bank	Deutsche Bank International
Keweenaw Foreign Trading Contracting & Investment Co. (S.I.K.)	Kleinwort Benson	Kredietbank N.V.	Kredietbank S.A. Luxembourg	Deutsche Bank International
Lazard Brothers & Co.	Lazard Frères & Cie	Lloyd's Bank International	Kreditbank International Investment Co. s.a.	Deutsche Bank International
Merrill Lynch International & Co.	Mitsubishi Bank (Europe) S.A.	Mitsubishi Trust & Banking Corporation (Europe) S.A.	LICB International	Deutsche Bank International
Mitsubishi Manza & Co. Limited	Morgan Guaranty	Morgan Stanley International	Mitsubishi Trust International	Deutsche Bank International
The Nikko Securities Co. (Asia) Limited	Morgan Stanley	Nippon Kangyo Kikumaru (Europe) Ltd.	Mitsubishi Trust International	Deutsche Bank International
Norddeutsche Landesbank	Oceanus International (Europe)	Nippon Kangyo Kikumaru (Europe) Ltd.	New Japan Securities Europe Limited	Deutsche Bank International
Prudential A.S.	Sal. Oppenheim jr. & Cie	Scandinavian Bank	Osaka International (Europe) Limited	Deutsche Bank International
Société Générale de Banque S.A.	Société Sécurité de Banque	J. Henry Schroder Wagley & Co.	Société Générale	Deutsche Bank International
Swiss-Bank Corporation International	The Tokyo Keiko Bank (Luxembourg) S.A.	Sumitomo Trust International	Société Générale Luxembourg	Deutsche Bank International
Vereins- und Westbank	Walo International (Europe)	M. M. Warburg-Schickmann, Wirtz & Co.	Toyo Trust Asia Ltd.	Deutsche Bank International
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-T. Mitchell Ford,
Chairman and President,
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Within our overall corporate strategic plan, the Statement of Mission is a backbone. It is an important planning tool we use, everyday, for guidance in business decision-making.

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Left to right: Stephen J. Ruffi, Executive Vice President, T. Mitchell Ford, Chairman and President, William C. Lichtenfels, Executive Vice President

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Statement Mission	T. Mitchell Ford, Chairman and President Emhart Corporation c/o Peter Muccini: Brooker, Gordon Partnership 83 George Street London, W1H 5PL England	
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INTL. COMPANIES

Trafalgar Housing warning prompts share suspension

BY ANDREW FISHER IN HONG KONG

SHARES WERE suspended yesterday in Trafalgar Housing, the Hong Kong group involved in property, mining and fish farming, after it said there would be no profit for the year just ended because of unspecified financial provisions.

The company, not connected with Trafalgar House of the UK, is also omitting its latest preference and interim ordinary dividends at an estimated saving of HK\$25m (U.S.\$3.72m).

Trading in the shares, which have fallen sharply in price over the last two years and are also quoted in Luxembourg, will resume tomorrow. Last night, the company said it had assured local stock exchange authorities that its net worth was not negative.

One of the group's most recent projects involves flats in neighbouring Macao. Hong Kong citizens have been invited to buy these with the prospect of also having the right to live in Portugal.

Doubts have arisen over whether the scheme will finally go through. Trafalgar Housing also has interests in U.S. oil wells and gold mine developments in California and Nevada, as well as other Hong Kong and Chinese property projects.

The company declined yesterday to state the size and nature of the 1982-83 financial provisions or to give any idea of results for the year. In 1981-82, net profits rose from HK\$1.4m to HK\$17.6m.

The Trafalgar shares were suspended at HK\$1.04, having been near HK\$8 in 1980 and 1981. It is believed the suspension was matched on the Luxembourg exchange, where the listing was sponsored in 1981 by Kreditbank.

Stock market sources said the size and range of the company's development commitments, along with the relative lack of continuous earnings, had led them to expect news of Trafalgar's problems for some time.

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COPENHAGEN	043.00.00.08	LUXEMBOURG	48.45.58	STUTTGART	22.03.13
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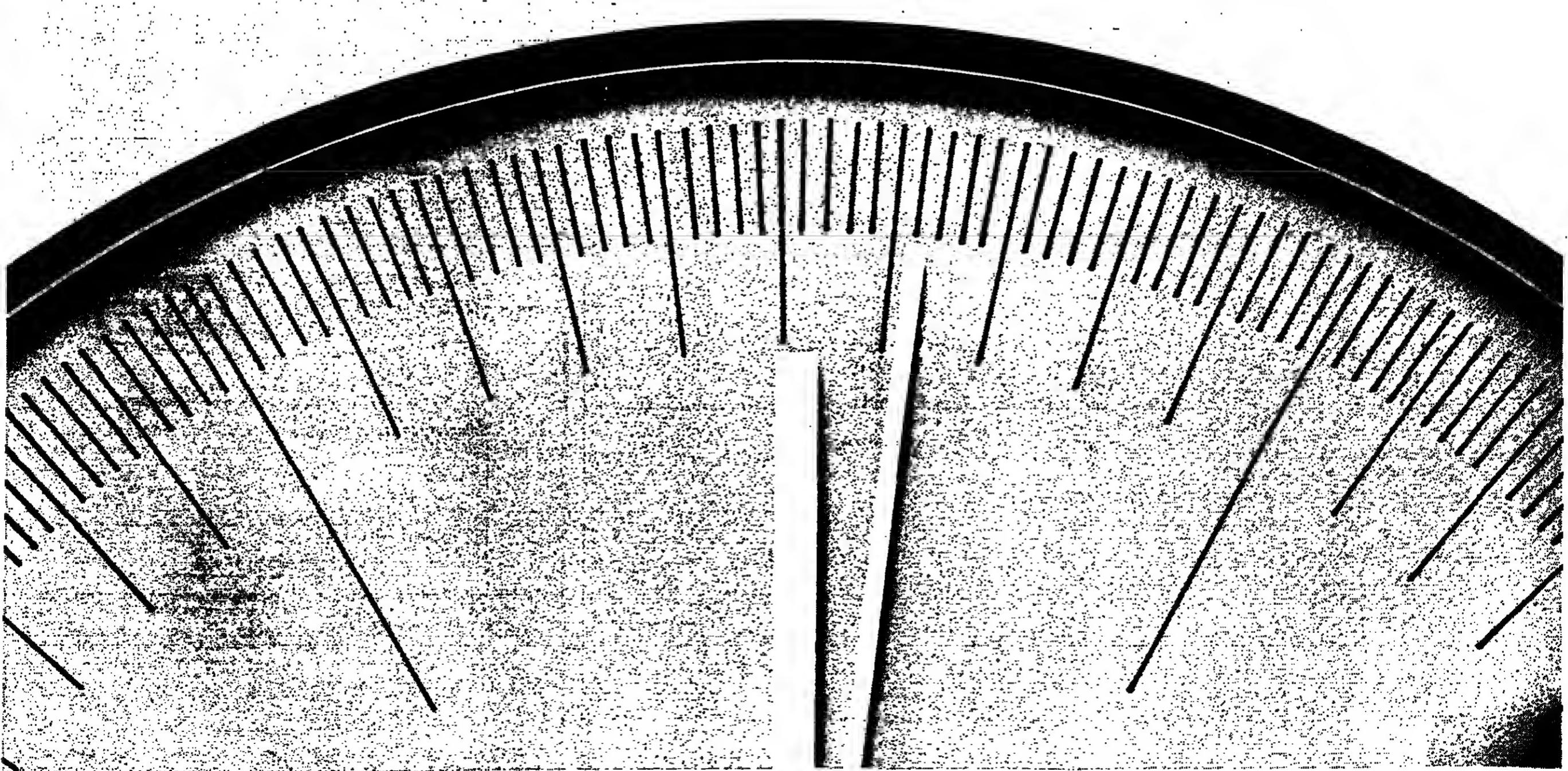
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UK COMPANY NEWS

Glaxo surges by £29.6m to £86.3m at halfway

WITH A rise in the trading surplus from £56m to £80.8m, first half taxable profits to December 31, 1982, of pharmaceuticals manufacturer Glaxo Holdings advanced by £29.6m to £86.3m. Sales were ahead by £97.5m to £504.4m.

Earnings per share are given higher at 14.3p (9.2p) undiluted and at 14.2p (9.2p) fully diluted—and the interim dividend is being raised from 2.25p net (adjusted for one-for-one scrip) to 2.75p. Last year a total of 7p (adjusted) was paid from pre-tax profits of £133.3m and earnings per share of 23.4p undiluted and 22.1p fully diluted.

Turnover increased £135.5m (£111.1m) wholesaling by Vestrin. Sales in the UK, excluding wholesaling, at £80m showed an increase of 5.4%. Overseas sales at £204m were £10m higher, while exports at £17m were higher by £23m.

The directors report that during the period Zantac, the group's new anti-ulcer drug, was launched in a further 13 countries and is currently being sold in 31 countries. Trandate has since the end of the period been launched in Japan and it, as well as Zantac and Zinacec, await approval in the US.

Glaxo's share of the profits of associates, in Japan, Nigeria and West Germany, at £3.7m was £1.1m higher in total than the corresponding figure last year. The results of overseas subsidiaries have been converted into sterling at rates of exchange on the last day of each period.

Minorities include all exchange differences except those arising on the conversion of fixed assets of overseas subsidiary and associated companies

DIVIDENDS ANNOUNCED

	Date	Corres-	Total	Total
	payment	ponding	div.	last
			year	year
Anchor Chemical	2	June 4	2	3
Barton Group	14	July 2	1.4	2.4
Bryant Blida	0.85	May 27	0.5*	2*
Claudkin Grp	3.75		3.75	6.25
Edinburgh Seas*	0.15	May 31	0.15	0.15
Fletch & Co.*	2.8		—	—
Glaxo	int. 2.75	June 17	2.25*	—
J. Halsted	int. 1.25	June 3	1*	2.4*
Highland Dist. int.	0.97	June 6	0.88	2.98
Insurance Cpn. Ireland	8.4		8.4	10.63
Queens Motor Houses	0.61	May 26	0.53	1.1
Rugby Portland	2.9	July 4	2.65	5.5
TSW	int. 0.3		—	0.9

Dividends shown per share net except where otherwise stated. * Equivalent after allowing for scrip issue. + On capital increase by rights and/or acquisition issues. + USM Stock & South African cents throughout. For 11 months, 1/2 Irish pence throughout.

which are taken to reserves.

Changes in foreign exchange rates since the beginning of the financial year have had a material effect, the directors say. Overall they estimate that movements in exchange rates since July 1, 1982 accounted for some 5% of the pre-tax profits.

Apart from the contributions payable to shareholders included investment income less interest payable of £1.8m (£1.85m debit).

Tax took £83.1m (£22.5m) leaving net profits of £53.2m (£24.25m).

After minorities of £80.000 (£20.000) attributable profits came to £52.4m—a rise of 56 per cent over the £33.62m for the corresponding period last year.

Losses on stock options in December 1982 added over £m shares to the then issued capital.

See Lex

Rugby Portland expands by 26%

A SIMILAR result to that of the first six months enabled Rugby Portland Cement to return pre-tax profits of £22.5m for 1982, an improvement of some 26 per cent on the previous year's £18.6m.

As indicated in the interim report the final dividend is being lifted to 2.9p (2.65p), which makes a net total of 5.5p per 25p share, against 5p previously.

Group turnover for 1982 expanded from £144.57m to £185.71m and trading profits advanced by £1.79m to £22.55m. Respectively, these break down to a UK £135.52m (£20.02m) and overseas £80.18m (£24.55m) and £16.6m (£14.57m) and £5.82m (£3.85m).

Sales of matured whiskies were marginally up on 1982

Highland Distilleries improvement

HIGHER profits and an increased dividend have been shown by the Highland Distilleries Co for the first six months to the end of February 1983. However, the directors do not expect profits for the second half to be materially different from the period last year.

The pre-tax figure for the first six months rose from £2.75m to £3.58m on turnover ahead from £47.50m to £50.63m.

The increase in turnover and profits is due to higher sales of the Famous Grouse brand of Scotch whisky, both in home and export markets, say the directors. Profits have also been helped by a reduced interest charge down from £22.000 to £17.000 resulting from lower borrowings.

Sales of matured whiskies were marginally up on 1982

levels. Demand for new whisky fillings is at a lower level than last year and no real improvement can be expected while surplus stocks hang over the market.

The net interim dividend has been declared at 0.97p—up on last year's 0.88p. Earnings per 20p share were given as rising from 4.1p to 4.4p. In the last full year a total of 2.88p was paid.

Fixed asset expenditure for the decade, of £25m sliced borrowings, and should cut interest costs by some £200,000 in the full year. Much of the profits advance comes from the progress of Famous Grouse in the English market where a 14 per cent volume and 12 per cent price rise offset a 6 per cent decline in Scotland. Export business is around break-even but after heavy promotional spending is unlikely to be a serious contribu-

tor to profit before 1985. Overall the group is working well below capacity but not planning to mothball a second distillery despite a 21 per cent fall in volume of new fillings which has been hit by the weak U.S. market. Much, therefore, depends in the current year on FG in the UK. Here a 6 per cent price increase was made in February and mature whisky prices have been firming in recent months. After allowing for the seasonal effect the outlook for the full year is around £2.6m pre-tax. Shares yesterday discounted much of the prospect with a 5p rise to 110 which puts the prospective p/e over 21.

In the longer term one must question the growing dependence of the group on one product even if the long rumoured major offensive by Distillers never materialised.

● COMMENT

A shift in seasonal factors and substantially lower interest costs enabled Highland Distilleries to turn in a better than expected first half. Receipt of an EEC Cereal Fund payment back-dated for a decade, of £25m sliced borrowings, and should cut interest costs by some £200,000 in the full year. Much of the profits advance comes from the progress of Famous Grouse in the English market where a 14 per cent volume and 12 per cent price rise offset a 6 per cent decline in Scotland. Export business is around break-even but after heavy promotional spending is unlikely to be a serious contribu-

Borough of Sunderland issue

IN THE first major local authority stock issue for over six months, the Borough of Sunderland issued £25m of loan stock redeemable in 2008.

The issue price and rate of interest will be derived from a gross redemption yield for the stock equal to 120 per cent and the gross redemption yield of 134 per cent Treasury Stock 2004/2005, as at 23 May tomorrow.

The issue will be partly paid with 25p per cent payable on application, and the balance by September 7, 1983. Interest will be paid on May 23 and November 23.

Application lists will open at 10 am next Thursday and dealings are expected to begin on the following day.

● COMMENT

The margin over the comparable gilts is fractionally higher on the Sunderland issue, than on similar local authority stocks, and so the market consensus is not surprisingly that the pricing is attractive. Of course, 25m is not much compared with Government issues, consequent arguments about lack of market

ability should not overlook the fact that corporations—Ilington for one—have in the past shown a tendency to buy back their own stock. There is always the nebulous possibility of the gilt market taking a tumble before dealing begins, but by waiting until the Sunderland offering, the risk of disaster for Sunderland is greatly reduced. An additional sweetener, particularly in the light of uncertainty about base rate movements, is the partly paid feature of the stock.

The underwriting has been arranged by brokers Scrimgeour & Kemp Gee.

BCA rights acceptances reach 95.9%

Following the offer by way of rights of 4.66m new ordinary British Car Auctions acceptances have been received for 1.65m (36.9%).

The shares for which acceptances have not been received have been sold in the market at 134p per ordinary and the surplus proceeds of 37.168p per share will be distributed to non-accepting shareholders.

● COMMENT

The prospects for the latest USM debenture, Miss World Group, was published yesterday. A total of 810,000 shares of 10p each are being placed at 60p per share for £480,000 net of expenses for the company. The placing, which is 41.54 per cent of the enlarged issued share capital, will not involve the sale of any shares by existing shareholders.

The market capitalisation of the company at the placing price is £1.17m. Mr Keith Pinker, partner in Schlesinger, broker to the issue, said yesterday: "That figure is the value put on the company when Eric Morley acquired it from Bellhaven in January and it would, therefore, be maintained in the market at around 18 per cent of the total. The important Australian subsidiary lifted its profits by 160 per cent above the strike date 160 per cent above the strike date returns in this area justify a diversification away from the lucrative business provided by the dance studio business. Even so, start-up costs associated with the dancewear expansion have impacted adversely on margins and some improvement is expected in the year's second half. The share price touched 127p ahead of the announcement, but fell back to 122p after the figures were revealed. At that level, however, the share is still well up on the placing price of 52p.

Mr Morley, chairman of both Bellhaven and Miss World, said that the main reason for coming to the USM was to pay off a debt incurred in the purchase of Miss World from Bellhaven. The small dividend will then start life as a public company debt free. In 1981, the company recorded pre-tax profits of £46,000, and last year improved with a result of £156,000. In the prospectus, the company forecasts that this year it will make £300,000 pre-tax.

At the placing price of 60p per share, that forecast implies a prospective p/e, fully taxed of 8.13. The forecast net dividend of 3p for 1983 would give a yield of 4.8% for a worse-than-average yield of 7.5 per cent.

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UK COMPANY NEWS

Queens Moat Houses beats its forecast with £2.78m

RECORD PRE-TAX profits, up from £1.65m to £2.78m, are reported by Queens Moat Houses for 1982, and the figure comfortably beats the forecast of £2.5m made at the time of the group's acquisition of 26 hotels from Grand Metropolitan in April, last year.

Queens Moat thus doubled its chain of hotels. It also acquired the Copdock International Hotel in Ipswich, and early this year acquired the Drury Lane Hotel in London. The group now operates 50 hotels, totalling 3,200 bedrooms, together with five public houses. Management is the board's intention to make further acquisitions, if appropriate, and to expand and improve the portfolio of properties.

Group turnover in 1982 soared from £15.41m to £35.13m. Trading profits, before rent and interest payable, were £6.4m against £2.24m. Rent took 20 per cent compared with 50.6m, and interest charges were considerably higher at £2.98m (£1.5m).

After tax of £5.62m (£16.000), attributable profits climbed from £9.65m to £12.22m. The final dividend is raised from 6.5p to 8.05p net for a total of 11.1p (£1.1p). Stated earnings per share increased from 2.64p to 3.21p.

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Details of the meetings are usually held for the purposes of considering dividends. Official notifications are not available as to whether the dividends declared are final or interim. Dividends declared earlier than those below are based mainly on last year's results.

TODAY:

International Lighting, Scottish Cities Investment Trust, South Industries.

Peacock Gulf, Southgate, Brook Group, British Home Stores, International Johnson Groups, Lenont, Northern Engineering Industries, H. & J. Quist, Sales.

FUTURE DATES

International American Coal
Portland Holdings May 13
Woodworth Holdings Apr. 21
Finlays Apr. 21
International American Invest. Trust Apr. 14
ASG International Apr. 27
Bentley Concrete Machinery Apr. 21
Bentley (1982) Ltd. Apr. 19
Highland Electronics Apr. 29
Hopkins Holdings Apr. 14
Loc Reinsurance Apr. 21
Liley (F.I.C.) Apr. 21
Midland Industries Apr. 15
Tisbury Group Apr. 21

Canadian setback hits Barton Gp. at year-end

THE EXPECTED downturn in year-end figures at Barton Group has been borne out with pre-tax profits falling from £1.63m to £600,000, which included second half profits of £344,000 against £572,000.

The final dividend is unchanged at 1.4p net for a same-again total of 2.4p.

Turnover of this holding company, with interests in tubing and foundry, industrial services and engineering, fell from £49.27m to £47.37m, and trading profits were lower at £1.39m compared with £2.15m.

The directors say that UK trading was similar to that achieved in the previous year, but that the unparalleled recession in Canada has seriously affected overseas figures where there were losses of £278,000 against profits of £402,000. There are now distinct signs, however, of improvement in Canada.

The pre-tax figure was after interest charges of £1.01m (£1.11m) and associate profits of £30.000. The total payout was equivalent to 2.4p.

For the half year under review turnover of this maker of PVC floor coverings, leisure products and waterproof clothing moved ahead from £9.49m to £12.91m.

On February 4 this year the company acquired the ear-camping business of Wigwam International Holidays for an initial sum of £30.000. The directors say the activities of this subsidiary will be reviewed in the annual report.

At the trading level profits for the six months ended January 31, 1982, about £7.5m. In the West Midlands, Bryant has been spared the worst effects of the recession by its up-market orientation, with only 20 per cent of sales to the firm.

for at least nine years, Queens Moat's range of exclusively three and four star commercial hotels has allowed its earnings to fall too far behind the capital it has employed during the recession. Its occupancy rates during the four weekdays prior to Christmas rose to 100 per cent, and its lack of tourism, except in Stratford and York, mean that it will not reap many of the benefits of a low pound this summer. Instead it is trying to fill its hotels at weekends with conferences which accounted for 20 to 25 per cent of turnover in 1982. The share price yesterday rose to 42.2p where the historic yield is 4.2 per cent.

James Halstead jumps by 68%

A JUMP of 68 per cent in pre-tax profits from £612,572 to £1,036m has been shown by James Halstead Group for the half year to the end of May, 1982. The accounts include a loss of about £100,000 from Avery, which the directors say was anticipated.

The interim dividend has been effectively lifted by 25 per cent.

After earnings per 10p share were given as rising from an 1.4p to 4.1p, the net interim dividend has been declared at 1.25p, which is equivalent to a rise of 23 per cent after taking into account a one-for-four scrip issue last year.

In the last full year pre-tax profits amounted to £1.86m on turnover of £22.02m, and the total payout was equivalent to 2.4p.

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Horizon Travel P.L.C. and subsidiary companies

RECORD RESULTS FOR FIFTH CONSECUTIVE YEAR

- Group Turnover £118,486,963 — 22% increase
- Pre-Tax Profits £14,300,817 — 7% increase
- Profit Attributable to Shareholders after Tax £9,718,094 — 55% increase
- Earnings per Share 23.00p — 15.95p previous year
- Proposed Dividend for year 3.60p — 3.00p previous year

Announcing results for the year ended 30th November, 1982, Chairman, Bruce Turner, said:

"Profits are at a record level for the fifth consecutive year."

"In Summer 1982 we carried 334,000 passengers — an increase of 12% and, for the first time, we gained the third largest share of summer business."

"Bookings for Winter 1982/83 have established yet another record with 114,000 passengers carried — an increase of 11%. This further consolidates our position as second largest winter operator, with a much increased market share."

"Again, in Summer 1982 and in Winter 1982/83, Horizon has been able to maintain successfully a no surcharge policy."

"Orion Airways has increased its contribution to pre-tax profits to £43 million and our hotels group has contributed further profits of £370,000 — substantially up on last year."

"Horizon remains convinced that it is essential to place emphasis on value for money and a high level of client satisfaction and so maintain its acknowledged record among major operators for providing most enjoyable holidays."

Horizon flies from Birmingham, Bristol, East Midlands, Gatwick, Glasgow, Luton, Manchester and Newcastle airports.

Copies of the 1982 Report and Accounts can be obtained from: The Secretary, Horizon Travel P.L.C., Broadway, Edgbaston Five Ways, Birmingham B15 1BB.

Key Figures Rabobank 1982.

Key Figures as of December 31, 1982.
(in millions of Dutch guilders).

Total assets	110,158
Total loans	68,012
Total deposits	83,760
Own funds	5,221
Net income	489
Number of:	
Offices	3,051
Employees	28,020
Savings accounts	8,720,000
Personal cheque accounts	2,940,000
Other current accounts	420,000

Rabobank Nederland, Internationale Division, Catharijnesingel 36, 3511 GB Utrecht, The Netherlands. Telex 40200.
Representative Office London, Princes House, 95, Great Queen Street, London WC2B 7NA, United Kingdom. Tel. (01) 6066361. Telex 852565.
Branch Office New York, United States of America. Telex 424337.
Representative Office Frankfurt, West Germany. Telex 413873.
Subsidiary Canada, CIBC N.A. Telex 3422.

Rabobank

TCW Realty Advisors

is pleased to announce
the formation of

TCW REALTY FUND I

with funding of

\$172,500,000

TCW Realty Advisors
is a joint venture of

Trust Company of the West
and

Westmark Real Estate Investment Services

Trust Company of the West

Los Angeles

Companies and Markets

BIDS AND DEALS

NEWS ANALYSIS—BTR/TILLING'S PLACE IN THE BID LEAGUE TABLE

Overshadowed by the early days of the 70s

BY DAVID DODWELL AND RAY MAUGHAN

THE £506m bid from BTR for Thomas Tilling may be the biggest on record in nominal terms—but two bids from the buoyant sector overshadow it now.

Judicious purchase of its own loan stock eventually freed the group from the hell and chain of borrowings arising out of the bid.

In many respects the Watney Mann saga was repeated in the following year when the Imperial Group, then primarily a tobacco company, launched a £255m bid for Courage, the brewery group.

Like Watney, Courage tried to clean up its portfolio, and to make itself indigestible. It took over John Smith's of Tadcaster—but to no avail. This was eventually pre-empted with a bid which in today's terms would have been worth £90m.

It is perhaps ironic that Mr John Kent, the current Imperial chairman, cut his teeth on the Courage division while Mr Michael Webster, chairman of

almost obliterated profits for a while. But it was gradually able to trade its way back to acceptable income and gearing levels.

Watney Mann's

shares

rose

from

£1.55m

to

£2.25m

in

October

last

year.

Grand Met in that crucial Grand

Met struggle now finds himself

as head of Firth Lovell the

grocery supermarket group,

waiting through the weighty

Monopolies Commission inves-

tigation to discover what the

regulator authorities make of the

£255m bid from Linfield Hold-

ings.

Linfield deal is

very much the product of the

reorganisation of the food

retailing industry, conducted

against the backdrop of a bitter

struggle for market share.

Linfield has

absorbed much energy in the

recent wave of bull market take-

over activity. Foremost among

these is the Paternoster stores take over of F. W. Woolworth, the UK subsidiary of the U.S. Woolworth group, completed in October last year and worth £116m.

Closely behind this is the unratified contest for UDS, where Hanson Trust and Bassishaw are slugging it out around the quarters of a million pound level.

The latest rash of takeovers marks a significant change from the second half of the 1970s, when takeover activity in the UK waned. While overall figures for the first three months of 1983 are not yet available, they are probably running well ahead of 1982 levels.

Between 1981 and 1982 total spending on mergers and acquisitions doubled to £2.2bn. But this was a fair dry run compared with total spending in 1972 of £2.55bn. At today's prices, that would amount to £8.7bn.

Clyde Shipping acquires Lawson Batey for £4m

GLASGOW-BASED Clyde Shipping will have a fleet of 32 tugs with the £4.1m acquisition of Lawson-Batey Tugs of Newcastle, one of Britain's oldest established tug operators.

Clyde Shipping profits last year were £1.5m, up on assets of £9.1m. Lawson-Batey made a £750,000 profit in 1982. The takeover follows accept-

CORRECTION TO NOTICE WHICH APPEARED 11TH APRIL, 1983.

U.S.\$70,000,000

Short-term guaranteed Notes issued in Series under a U.S.\$280,000,000 Note Purchase Facility

Mount Isa Mines (Coal Finance) Limited

This is hereby given that the above Series of Notes issued under a Production Loan and Credit Agreement dated 30th March, 1983, carry an Interest Rate of 5.5% per annum. The Issue Date of the above Series of Notes is 12th April, 1983, and the Maturity Date will be 12th October, 1983. The Euro-clear reference number for this Series is 7147 and the CEDEL reference number is 241253.

Manufacturers Hanover Limited

Issue Agent

11th April, 1983

This advertisement is issued in compliance with the requirements of the Council of The Stock Exchange. It does not constitute an invitation to any person to subscribe for or purchase any shares in Edenspring Investments PLC.

EDENSPRING INVESTMENTS PLC (Incorporated in England under the Companies Acts 1948 to 1981 — No. 1692513)

SHARE CAPITAL

Authorised Issued or to be Issued fully paid

£750,000 In Ordinary Shares of 1p each £369,705

6,000,000 ordinary shares of 1p each have been issued by way of subscription for cash at par. A maximum of 30,970,537 ordinary shares of 1p each will be issued as consideration for the acquisition of the whole of the share capital of Pennine Commercial Holdings p.l.c. ("PCH") in issue following implementation of the proposed capital reorganisation.

Application has been made to the Council of The Stock Exchange for all the 36,970,537 ordinary shares of 1p each of Edenspring Investments PLC ("Edenspring") to be admitted to the Official List.

Particulars relating to Edenspring are available in the Extel Statistical Service and copies of such particulars may be obtained during normal business hours for so long as the Offer on behalf of Edenspring for the whole of the share capital of PCH in issue following implementation of the proposed capital reorganisation of PCH remain open for acceptance, from:

Henry Cole, Lamond & Co. City Wall House, Parsons Gardens, 84/90 Chiswell Street, London EC1Y 4TX.

This advertisement is issued in compliance with the requirements of the Council of The Stock Exchange. It does not constitute an invitation to subscribe for or purchase any shares.

Bifurcated Engineering PLC

(Registered in England — No. 36451)

Share Capital

Existing Proposed Existing Proposed

2,500 £700 £500 25p

2,500 3,750 8 per cent. Convertible Cumulative Redeemable

Preference Shares of 25p

1,050 £1 each 1,925 1,925

2,500 4,800 — 1,047 1,047

This advertisement appears in connection with the issue of 1,047,225 8 per cent. Convertible Cumulative Redeemable Preference Shares 1981/1988 of £1 each ("Convertible Shares") of which 278,000 will be issued on 4th May, 1983. The Convertible Shares have been admitted to the Official List by the Council of The Stock Exchange.

Particulars relating to the Convertible Shares are available in the Extel Statistical Service and may be obtained during normal business hours on any weekday (excluding Saturdays) up to and including 26th April, 1983 from:

Hambros Bank Limited 41 Bishopsgate, London EC2P 2AA. Laurence, Prust & Co. Basildon House, 7-11 Moorgate, London EC2R 6AH.

RANSOMES

Profits doubled in a more encouraging market

* Group profit before tax and extraordinary items at £2,046,000 was almost double the 1981 figure. An appreciable proportion of this was earned by the US subsidiary.

* Introduction of several important new products both in the farm machinery and grass machinery divisions, coupled with some signs of improving demand, have provided a more encouraging market in which to operate.

* The Board recommend an increased total ordinary dividend of 12.0p per share (1981: 11.14p).

Copies of the Annual Report may be obtained from the Secretary,

Ransomes Sims & Jefferies PLC, Ipswich IP3 9QG

GRASS MACHINERY FARM MACHINERY

INDUSTRIAL CASTINGS PROPERTY DEVELOPMENT

MINING NEWS

Gold mine earnings mark time during March quarter

BY KENNETH MARSTON, MINING EDITOR

DESPITE A modest rise in the gold prices received in the March quarter, lower net profits for the period are reported by virtually all the South African gold mines in the Consolidated Gold Fields group.

Pre-tax profits increased thanks to a 4 per cent rise in the average gold price received in the latest quarter to R16,224 per kilogramme, equal to about U.S.\$450 per ounce at current exchange rates.

The fall in March quarter net profit announced by De Beers is disappointing. It reflects a fall in gold production resulting from an unexpected setback in the gold recovery grade to 4.6 grammes per tonne in the December quarter and 5.2

Soviets aim to double grain output, Page 33

SECTION III - INTERNATIONAL MARKETS

FINANCIAL TIMES

Tuesday April 12 1983

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WALL STREET

Money data allows reins to loosen

THE FEDERAL Reserve's announcement late on Friday of an unexpected fall in M-1 money supply meant that Wall Street started the week in excellent form, with both credit and equity sectors responding favourably, writes Terry Byland in New York.

The slackening of upward pressures on money supply, which the market hopes to see confirmed later this week when the latest M-2 and M-3 aggregates are published, brought further easing of yields in the credit sector and a strong rise in share prices:

By 1pm the Dow Jones industrial average was up 12.00 at 1,136.71. The upswing in equities – which took in the broad range of industrial, technological and consumer issues – was in part a technical rebound from several sessions of sluggish trading, but also indicated underlying confidence ahead of the quarterly corporate reporting season which gets under way this week.

IBM stood out strongly at \$105%, a rise of 5% to a 52-week high which un-

derlined the market's satisfaction with the computer group's corporate strategy.

Also in demand were shares in Honeywell, 5% higher at \$38; Digital Equipment, which put on \$2 to \$118%; and Texas Instruments, 5% higher at \$162.

Oil shares, which spearheaded last week's gains in equity markets, were in demand again: Exxon, 5% up at \$31%; Mobil, 5% up at \$29%; and Standard Oil of Ohio, 5% up at \$45%, all attracted good retail demand. Among the oil industry service groups, Schlumberger added 5% to \$242.

General Motors, a weak spot towards the end of last week, recouped 5% to 55%, but other motor issues remained out of favour. Ford, at Chrysler at 51, showed no change from pre-weekend levels.

Another weak spot was Pan American which slipped 5% to \$4%, in a generally dull airline sector.

A boardroom prediction of flat earnings for the first quarter proved no discouragement to buyers of Minnesota Mining and Manufacturing, which gained 5% to \$78%. Kennametal, the tools and ammunition manufacturer, put on 5% to \$25% on its disclosure of a reduced loss in the third quarter.

CBS, the radio and television network operator, added 5% to \$68% after announcing that it will market software for personal computers.

Further encouragement came from a half-point cut in broker loan rates by U.S. Trust, cutting its level to 9% per cent.

Credit market yields maintained the downward trend established late on Fri-

day. The Federal Funds rate held low at 8% per cent, confirming hopes that it will ease this month as the recent weight of Treasury funding is absorbed.

Three-month Treasury Bills were discounted at 8.18 per cent and six-month bills at 8.28 per cent. But the strongest response to the outlook for interest rates came at the long end of the Treasury bond market, where the benchmark 2012 rose from Friday's late quotation of 98 1/2 to reach 99 1/2.

The municipal bond sector remained the outcome of today's meeting between Government and industry leaders striving to avert a default by Washington Public Power Supply System on its \$2.25bn in bonds.

A strong Toronto opening was quickly checked, but modest gains remained through much of the day. Base metals and minerals were among the weakest, while Montreal was held back by the papers and publishing sector. Banks were to the fore.

FAR EAST

Tokyo finds bargains in short supply

THE SEARCH for overlooked and bargain-priced issues which had kept Tokyo investors in the market over the past week or more appeared yesterday to have borne all the fruit that it could for the present. With blue chips still near record levels, many participants moved to the sidelines to await new buying stimuli.

The main hope is for a cut in the official discount rate from its current 5% per cent, a Yamaichi Securities analyst said, although any further pointers to an economic recovery in Japan would be welcome.

But the wait-and-see attitude allowed the Nikkei-Dow market average to edge up 2.38 from Saturday's close to reach 8,475.9 in thin volume of 260m shares. The stock exchange index firmed 0.49 to 611.03.

High technologies were well maintained: TDK rose ¥80 to ¥4,320; Canon ¥68 to ¥1,270; Matsushita Electrical ¥20 to ¥1,330 and Sony ¥40 to ¥3,540.

Low-priced large-asset stocks were at a disadvantage: Sanyo Kokusaku Pulp shed ¥10 to ¥265; Keisei Electric Railway ¥9 to ¥471; Tokio Marine the same amount to ¥521 and Japan Line ¥5 to ¥10.

Government bond prices firmed, reflecting easier U.S. rates at the end of last week and a seasonal surplus in the money market, bond managers said.

Buying support took a more solid form in Singapore, where the Straits Times industrial index gained 10.85 to 800.25, helped by a crop of good corporate results.

Overseas Union Bank rose 14 cents to \$34.68 on its higher profit figures while Overseas Union Trust, its subsidiary, gained three cents to \$33.02.

Hong Kong was steady but subdued as early gains were eroded, but the Hang Seng index managed a 7.89 improvement to 1,041.88, its seventh consecutive gain.

Of the property leaders, Cheung Kong slipped 10 cents to HK\$10.20, but Swire Properties added the same amount to HK\$6.80. Trafalgar Housing, which forecast a loss and cancelled dividends due, was suspended at HK\$1.04.

AUSTRALIA

Mines do well

SHARP GAINS by gold-related mining stocks and industrials highlighted a buoyant Sydney session which saw the All-Ordinaries Index close 7.3 higher at 537.2.

Advances outnumbered declines by 190 to 57, with 140 traded issues unchanged. The 18.8m shares traded at a value of A\$14.5m, of which A\$8.9m was invested in the industrial sector.

BHP added 14 cents to A\$6.90, Western Mining 12 cents to reach A\$4.47 and CRA 10 cents to A\$4.80.

Melbourne continued the firm trend of last week with takeover target Grace Brothers gaining 25 cents to A\$4. Like Sydney, gold issues were in demand.

SOUTH AFRICA

Gains trimmed

LATE profit-taking pulled most Johannesburg gold shares off the day's highs, which had been achieved on the back of a firmer bullion price.

Elandsrand nonetheless added R1.50 to R14, while Gold Fields group mines followed the trend after steady quarterly results. GFSF itself picked up R4 to R142.

Anglo-American rose 65 cents to R22.25 and De Beers 33 cents to R9.03, while industrial leader Barlows firmed 10 cents to R12.25.

LONDON

Rate allure proves irresistible

BRIGHTER prospects for lower interest rates and continuing optimism about the economic outlook proved irresistible lures for London investors yesterday. A fresh wave of enthusiasm carried all leading measurements of equity market trends to new highs, the FT Industrial ordinary share index closing 8.9 up at 633.

Government securities also strengthened, selected longer-dated stocks jumping more than two points.

Sterling's resumed advance dispelled doubts about renewed exchange rate weakness which might have induced the authorities to postpone cuts in money market intervention rates. These were again left unchanged, but stock market enthusiasm was undaunted and equity values rose persistently throughout the afternoon.

Gario proved an exception, however, dropping to 795p on its first-half profits which were short of the more optimistic hopes, before rallying to close a net 80p down at 810. Other miscellaneous industrial leaders pushed on to record levels on cheaper money hopes. Fisons gained some 10p to 602p, Unilever 10p to 626p and Beecham 10p to 403p.

Thomas Tilling closed 10p dearer at 189p, after touching 186p, after its strong rejection of BTR's 185p cash or share-exchange bid, currently worth 189p per share; BTR fell to 40p before ending 14p down at 416p. Another unwelcome bid, General Felt's 520p per share cash offer for Sotheby's, left the auction house 35p higher at 525p.

Domestic and overseas investors singled out longer-dated gilts, still free of Government tap, and quotations soared. Longer medium were also strong with rises of around 1%, but municipalities in the region of the proposed new tap, Treasury 10% per cent 1989, ended only marginally better. Shorter-dated gilts joined in the advance.

But the wait-and-see attitude allowed the Nikkei-Dow market average to edge up 2.38 from Saturday's close to reach 8,475.9 in thin volume of 260m shares. The stock exchange index firmed 0.49 to 611.03.

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Government bond prices firmed, reflecting easier U.S. rates at the end of last week and a seasonal surplus in the money market, bond managers said.

Buying support took a more solid form in Singapore, where the Straits Times industrial index gained 10.85 to 800.25, helped by a crop of good corporate results.

Overseas Union Bank rose 14 cents to \$34.68 on its higher profit figures while Overseas Union Trust, its subsidiary, gained three cents to \$33.02.

Hong Kong was steady but subdued as early gains were eroded, but the Hang Seng index managed a 7.89 improvement to 1,041.88, its seventh consecutive gain.

Of the property leaders, Cheung Kong slipped 10 cents to HK\$10.20, but Swire Properties added the same amount to HK\$6.80. Trafalgar Housing, which forecast a loss and cancelled dividends due, was suspended at HK\$1.04.

AUSTRALIA

Mines do well

SHARP GAINS by gold-related mining stocks and industrials highlighted a buoyant Sydney session which saw the All-Ordinaries Index close 7.3 higher at 537.2.

Advances outnumbered declines by 190 to 57, with 140 traded issues unchanged. The 18.8m shares traded at a value of A\$14.5m, of which A\$8.9m was invested in the industrial sector.

BHP added 14 cents to A\$6.90, Western Mining 12 cents to reach A\$4.47 and CRA 10 cents to A\$4.80.

Melbourne continued the firm trend of last week with takeover target Grace Brothers gaining 25 cents to A\$4. Like Sydney, gold issues were in demand.

SOUTH AFRICA

Gains trimmed

LATE profit-taking pulled most Johannesburg gold shares off the day's highs, which had been achieved on the back of a firmer bullion price.

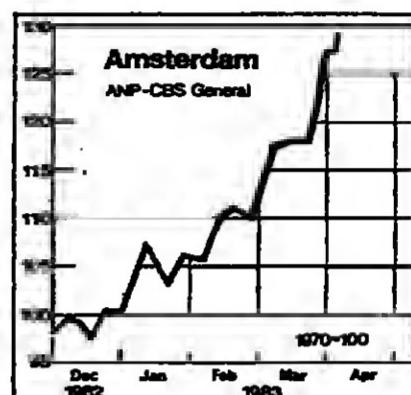
Elandsrand nonetheless added R1.50 to R14, while Gold Fields group mines followed the trend after steady quarterly results. GFSF itself picked up R4 to R142.

Anglo-American rose 65 cents to R22.25 and De Beers 33 cents to R9.03, while industrial leader Barlows firmed 10 cents to R12.25.

Heavy buying interest from Johannesburg led to a renewed shortage of South African golds, and financials were highlighted by persistent and sizeable buying of Anglo-American, which moved up 10p to a 1982-83 peak of 540p, and De Beers, which edged up 5% to a high of 133p.

Recently buoyant Australians continued to gain ground following further strength in overnight domestic markets. The leading diversified miners were most impressive, with CRA 7p stronger at a year's best of 277p.

Share information service, Page 34-5



EUROPE

Amsterdam attracts the Germans

WEST GERMAN investors made their presence felt in Amsterdam yesterday with purchases which provided strong gains for many leading issues in busy trading activity – a switch of attention which suggests a belief that the Dutch bourse may still have some way to go in its present upward trend – while many German stocks began to display signs of instability at their peak levels.

The Amsterdam indices attained new highs for the year, with the general index up two points at 129.1, the industrials 0.7 higher at 109 and the intermediates 3.3 up at 132.1.

The Brussels bourse was higher in moderate trading following the Wall Street lead, with the Belgian Shares index at 118.92 against 118.29.

Lively trading in Stockholm moved prices higher with pharmaceuticals, vehicles and forest groups in the limelight.



Production problems?
EMS-INVENTA
may have a solution

▲ 120.2.14 • Egg-Heads, sculpture by Hans Jörg Linckens, Homburg/Saar, Switzerland

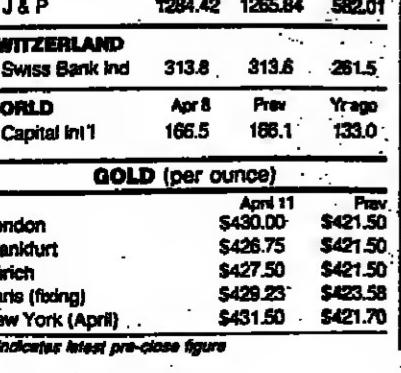
EMS has at its disposal an experienced team of engineers, technicians, planners and financial experts. This team possesses specialized know-how in manufacturing processes, in the construction and operation of production plants and in finance questions. Knowledge gathered on the five continents of the world.

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established on all five continents. You can have complete confidence in EMS. EMS stands for quality and reliability, for know-how and customer service. Ask for our literature.

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* Indicates latest pre-close figure

Prices at 3pm, April 11

NEW YORK STOCK EXCHANGE COMPOSITE PRICES

WORLD GOLD

The fifth FT Gold conference to be held in Lugano, Switzerland on 22 and 23 June 1983 will stress the market production and investment outlook. The silver market and gold-silver price relationships together with monetary questions will also be analysed.

Robert Guy of Rothschilds will chair the first day and give the Opening Address. The speaker platform will be as authoritative as at previous meetings in this well-regarded series.

Statistical methods

For further details please contact:

Continued on Page 3

AMERICAN STOCK EXCHANGE COMPOSITE PRICES

Prices at 3pm, April 1.

Continued on Page 3

NEW YORK STOCK EXCHANGE COMPOSITE PRICES

WORLD STOCK MARKETS

CANADA	DENMARK	NETHERLANDS	AUSTRALIA	JAPAN (continued)	LONDON	FT-ACTUARIES SHARE INDICES														
(23 p. or less)	Apr. 11	Vern.	Apr. 11	Price Kroner	+ or Ftn.	Apr. 11	Price Ftn.	+ or Ftn.	Apr. 8	Price Yen	+ or Ftn.	Stock	Closing Price	Day's Change	Mon April 11 1983	Fri April 7	Thur April 6	Wed April 5	Tue April 4	Mon April 3 (approx.)
AMCA Int.	25%	-	Aarhus Olde	359	+2.0	ANZ Group	5.7	+0.1	Konishiroku	605	+10	Stock	466.42	1.5	15.00	491.50	491.51	491.52	491.57	491.57
Abell	22	-	Andelskasse	471	+0.0	Aero. Aust.	1.05	+0.0	Kubota	335	+7	BP	362.87	+0.7	9.45	437	421.01	421.57	421.56	422.05
Alberta Econ.	17%	+ 1%	Arbeidskasse	361	+0.1	Ahoid	107.7	+1.7	Kumagai	407	+7	De Beers Dtd.	540	+2.0	4.20	104.44	104.44	104.44	104.44	104.44
Alcoa Alcan	14%	+ 1%	Copenhagenbank	400	+2.5	AKZO	69.7	+0.0	Kyoto Ceramic	710	+40	Dunlop	540	+1.4	1.20	701.70	701.70	701.70	701.70	701.70
Almena Steel	30	-	D. Söderbergs Fab.	273.5	+0.4	AMCO	126.5	+0.3	Mitsui Metal	535	+5	Fisons	55	+5	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Danske Bank	123.2	+0.4	Aust. Cons. Ind.	1.20	+0.0	Mitsui	525	+5	Glaud	602	+19	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	East Asiatic	123.2	+0.4	Aust. Guarant.	2.10	+0.5	Mitsui	525	+5	ICL	404	+0.5	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Forende Bryg	807	-	Aust. Nat. Ind.	0.95	+0.1	Mitsui	525	+5	London & Liverpool	400	-16	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Ferenda Dampf	129	-	Aust. Paper	1.85	+0.8	Mitsui	525	+5	Lorraine	443	+24	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Fuhrmann-Tet	101	-	Bond Hedges	0.98	+0.0	Mitsui	525	+5	Racial Elect.	479	+13	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Gaard Hede	101	-	Boral	2.00	+0.7	Mitsui	525	+5	RTZ	540	+7	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	GNT Hdg.	101	-	Bougainville	2.45	+1	Mitsui	525	+5	Saxon	120	-15	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	I.B.E.	244	+1.4	Brownfield Ind.	2.45	+1	Mitsui	525	+5	Shell Trans.	504	+18	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Eisener NDU	303	+14	Bryce Oil	3.0	+0.5	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Forsen Ind.	101	-	Bridge Oil	3.0	+0.5	Mitsui	525	+5	Y	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CR	4.9	+0.1	Mitsui	525	+5	Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104.44	104.44	104.44
Amoco	11%	-	Frederik Ind.	101	-	CRA	4.9	+0.1	Mitsui	525	+5	X-Y-Z	11	-1	1.20	104.44	104.44	104		

SECTION IV

FINANCIAL TIMES SURVEY

Commuter Aircraft and Air Services

Although the recession has severely affected world civil aircraft markets, commuter operations are surviving better than most other sectors. A world market of about 6,500 aircraft, worth about \$25bn, is forecast up to the year 2000.

Strong growth ahead

By MICHAEL DONNE, Aerospace Correspondent

MOST PEOPLE are now familiar with the domestic and international operations of the major scheduled and charter passenger airlines, but throughout the world there is another rapidly growing sector of transport aviation, of which comparatively little is heard, but which is becoming increasingly significant.

Usually described as "commuter" aviation, this broadly represents that growing area of commercial-air-transport operations lying between the activities of the major airlines at one end of the scale, and the even wider arena of "general aviation" at the other (the latter in turn including business and executive flying, agricultural aviation, flying training, leisure flying and the vast range of other aeronautical activities).

The term "commuter" aviation is in some ways misleading. In its purest interpretation, it covers the provision of regular air services between small, local communities and larger centres; whereas bigger airports, well served with long-haul domestic and international scheduled air services, are available — the so-called "hub and spoke" pattern.

But the concept is being increasingly widened. At the lower end of the scale, it includes services linking small communities many of which previously had no air services at all, called "local" service operations, and, at the upper

end, operations over longer distances, often linking major centres and even sometimes rivalling the operations of bigger airlines, so that they effectively become "regional" operations.

The distinctions between "local" service, "commuter" and "regional" operations are thus becoming increasingly blurred, and it is often difficult to discriminate between them. A more accurate description of all these operations, therefore, is "third-level" to distinguish them from the larger short-haul and long-haul domestic and international operations of the major airlines, and from the wider arena of "general aviation."

Specacular

The development of this type of aviation has been most spectacular in the U.S. Over the period 1971-81, U.S. third-level services traffic grew at an average annual rate of 15 per cent, compared with total U.S. scheduled airline growth of 5.6 per cent a year. Full figures for 1982 are not yet available, but the indications are that this growth pattern was maintained, with only a few exceptions.

The expansion has been especially significant since the de-regulation of the U.S. domestic air transport industry, which created virtual freedom of entry for airlines of all kinds on to new routes.

Outside the U.S., the upsurge in this type of aviation has also been significant, if less dramatic. While it is estimated that about 95 per cent of last year's total of 758m scheduled service passengers worldwide were carried by about 200 major airlines in the 144 member-states of the International Civil Aviation Organisation, the remaining 5 per cent of the traffic, or about 38m passengers, was carried by upwards of 1,000 "third-level" operators.

Of these, about 300 are located in the U.S., operating alongside some 4,000 air taxi operators, with about 300 in Western Europe, while the rest scattered about the rest of the world. Many of these operators are very small, often with only one or two aircraft involved, while some are very large, especially in the U.S. But they are nevertheless performing a valuable service in bringing passenger and cargo transport to a wide cross-section of local communities, which otherwise might not have air services at all.

No matter how they may be described — "third-level," "commuter," "local" service" or "regional" — all of these operations have several elements in common. They are short-haul in nature (up to about 200 to 300 miles). They mostly use small, twin-engined turbo-propeller powered aircraft, generally seating up to about 20 to 30 passengers at a time (the official U.S. definition of a "commuter" carrier is one using aircraft seating fewer than 60 passengers or carrying less than 15,000 lbs of cargo on regularly scheduled operations).

They are all comparatively low-cost, no-frills, cheap-fare operations; and they are all capable of using the most simple, rugged airfields and other ground facilities, as well as those of more sophisticated airports.

All these operations have become possible because of the development of a wide (and expanding) range of small, light twin-engined transport aircraft, ranging from about four to six seats upwards, but mainly in the 20-30 seater category, although there are some larger 50-seaters such as the de Havilland Canada Dash Seven.

Prospects for the growth of third-level air transport through the rest of this decade are considered good, especially in the U.S., Western Europe, Australia, Canada, and Latin America, while the rapidly developing economies of countries in South-East Asia are regarded as a particularly encouraging breeding ground for third-level aviation.

Trunk routes

Overall, the growth in this type of aviation is expected to produce a requirement for some 6,500 aircraft of the third-level variety by the end of this century, worth about \$25bn in current values.

In the UK, air services linking major cities in the provinces with each other, with London, have existed for many years, for example on the trunk routes between London and Glasgow and Edinburgh, Manchester and Birmingham. The growth of commuter-style services on routes with less dense traffic has been a more recent development, but is now one of the more rapidly expanding elements in UK air transport. There are various reasons for

this. One is the rising cost of surface travel, whether by rail or car, coupled with unreliability on the railways (last year's rail strike did much to encourage commuter air travel). Another is the increasing availability of aircraft much more suitable for short-distance air transport than some of the larger jet or even turbo-prop aircraft that have been used in the past.

On many occasions in the post-war history of UK internal air transport, short-haul inter-city air services have been started, only to founder because the traffic available on the routes has proved inadequate to be operated economically.

The introduction of smaller, 20- to 30-seat turbo-prop aircraft such as the Short 330 and the Embraer Bandeirante, for example, have done much to revitalise some existing UK inter-city air routes and stimulate the development of others. As the range of available types of aircraft widens, so does the scope for the introduction of new third-level air services, and by carefully tailoring the size of aircraft to the traffic available, it is now possible for almost any air service to be run profitably.

Another factor behind the growth of third-level aviation in the UK has been the emerging demand by businessmen for cross-country links, as opposed to the customary trunk-route services. The tendency for

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Developing world	II	Profiles:	
Financing	III	Genair	IV
The UK and Europe	IV	Docklands Stolport	V
Scotair services	V	Birmingham Executive Airways	V
Aircraft in detail	VI	Metropolitan Airways	IV

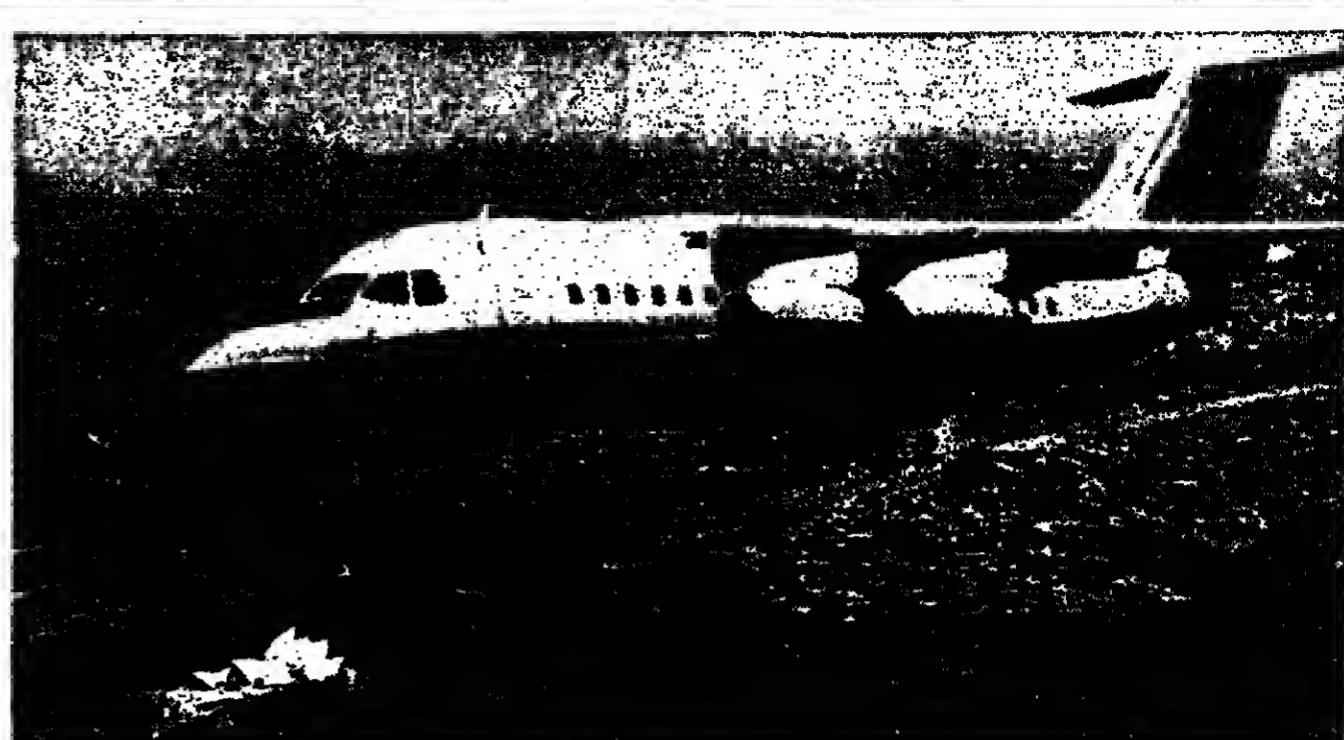
industries of all kinds to locate offices and factories in new development areas has helped to generate this demand, and although in some cases the evolution of cross-country air services has been slow, there is strong evidence that this type of third-level aviation will grow.

Operators providing such services already include Air UK, Air Ecosse, Birmingham Executive Airways, British Island Airways, Brymon Airways, Genair, Inter-City Airlines, Loganair, Manx Airlines and Metropolitan Airways, all of which can be described as "commuter" type operators.

In addition, however, there are some bigger scheduled operators of domestic and international regional air services, some of whose activities can also be fairly described as commuter operations, including British Caledonian, British Midland and Dan-Air.

A more recent trend has been for some of the smaller commuter operators to form with larger, internationally scheduled airlines, so as to stimulate traffic growth by pro-

CONTINUED ON
NEXT PAGE



A BAe 146 four-engine jet flying over Sydney Harbour during a world demonstration tour. The largest of the commuter aircraft, the 146 nevertheless can land on semi-prepared airstrips with minimum ground facilities.

Space Ship!



Comparison of cross-sections

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- ② DASH-8
- ③ SF 340
- ④ EMB 120

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Add to this low initial and operating costs (our break-even load factor is the lowest of them all), outstanding fuel productivity (especially in the essential short-hop segment), excellent hush properties and a proven heritage — based on the highly successful 330 Commuterliner now operational with over 30 major regional airlines — and the argument for selecting this new technology profit-maker for fleet

expansion in the '80s becomes pretty well invincible. Especially when you consider that it is now in airline service — at least two years ahead of its closest competitor!

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COMMUTER AIRCRAFT II

Fuel cost rises behind U.S. expansion

COMMUTER AIRLINES in the U.S. are going through a period of rapid growth. In 1982, the number of passengers boarding commuter aircraft — defined broadly as those with 60 seats or less — jumped from 15.4m to 18.55m. That was double the level five years earlier.

This still represents a modest proportion of total air-line passenger traffic in the U.S. — roughly 6 per cent — but the commuters are expected to increase their share of the market significantly over the next decade. The Federal Aviation Authority has projected 43m passengers by 1993 in this category, and there are those in the industry who think that this view is too conservative.

The main reason for this growth is that the major airlines have been suspending their services to small cities across the continent on a large scale. In the past 18 months alone, the jet airline operators have pulled out of 68 communities and this withdrawal by the bigger airlines — which looks likely to be a continuing process — has provided a major business opportunity.

What is not so clear is just why the minors have been abandoning services in this way. The obvious temptation is to link the trend to the deregulation of the U.S. airline industry, which occurred in 1978. Although the commuter airlines themselves were never regulated by the Civil Aeronautics Board, one of the major arguments presented by opponents of entry and exit freedom in the airline market was that small communities would lose air ser-

vices as a result of such a move. However, this pattern of route abandonment by the larger airlines extends back for a lot longer than five years. A Department of Transportation study in 1975 found that in the five years after 1970, certificated airlines had reduced the number of small cities they served by 14 per cent, and cut back flights on such routes by nearly a quarter.

So there is a more fundamental explanation for the shift to commuter services. Most markets serving small towns are short hauls, and rising fuel costs have made jet operations significantly less competitive on such routes compared to small commuter aircraft on ground transport.

For small turboprops, about three gallons of fuel is required per available seat for a 100-mile passenger flight; a small jet requires more than four gallons per available seat.

In practice, the differential is even greater. A recent study by the Civil Aeronautics Board's office of economic analysis argued that jets were unlikely to large to operate at high load factors in small markets.

Impact.

Overall, the CAB's office of economic analysis found that service to small communities had declined slightly as a result of all these economic and regulatory changes—but the impact had been by no means uniform. In the towns where trunk and local airlines had dropped services, total departures had actually risen by 26 per cent — and this increased service had come entirely from the expanded use of commuter air-

craft. Jet Service had declined by 90 per cent, while large propeller service was down by a half.

Despite the increase in volume, the commuter airlines and their suppliers did not escape the rigours of the recession in 1982. A number of marginal airlines have gone out of business, reducing the number of commuter aircraft operators in the U.S. from 271 in 1981 to 245 at the beginning of this year.

Financial uncertainty combined with the overhang of capacity which followed a high level of sales in 1980 and 1981, has also put a nasty squeeze on some of the aircraft manufacturers in this field.

Fairchild Industries, which claims to account for nearly a third of the worldwide fleet of 15 to 20 passenger commuter aircraft, delivered only 17 aircraft in this category in the U.S. last year, compared with 28 in 1981. The company bitterly, and unsuccessfully, pro-

tected against what it claimed was unfair trade competition from Embraer, the Brazilian manufacturer of the Bandeirante commuter aircraft.

However, Fairchild remains convinced that there will be substantial growth in this sector of its business over the next decade, and believes that the recovery will get under way in the near future. It is also very optimistic about the prospects for its new 34-passenger 340 turbo-prop airliner, which it is developing with a joint venture with Saab Scania of Sweden. Deliveries are due to start in April next year, and there are firm orders for over 90 of these machines.

Fairchild is not alone in thinking that this will be a growth business. The Regional Airline Association believes that there could be a demand for between 1,200 to 1,500 commuter aircraft in the U.S. over the next decade.

Richard Lambert

The Saab-Fairchild 340 on initial flight testing. The withdrawal of thirty jets from many U.S. services has opened the market to new turbo-pros

have gone even if deregulation had not occurred.

In addition, there have been important changes in the nature and scale of government subsidies for local air services. Outlays in the biggest category, the so-called Section 406 subsidies, fell from \$64m in 1981 to \$46m in 1982. Appropriations for subsidies under this heading were reduced by about half for fiscal 1983 and were eliminated for fiscal 1984.

In practice, the differential is even greater.

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While London struggles to find a third international airport, British Caledonian announce eleven of them.



Genair.



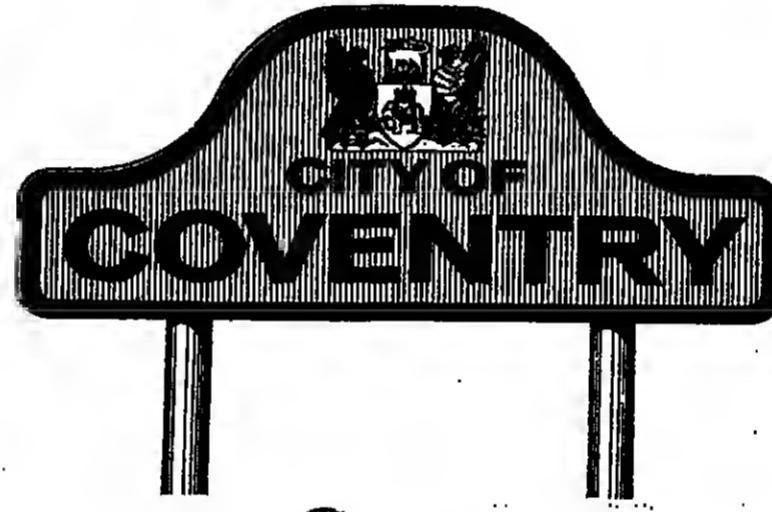
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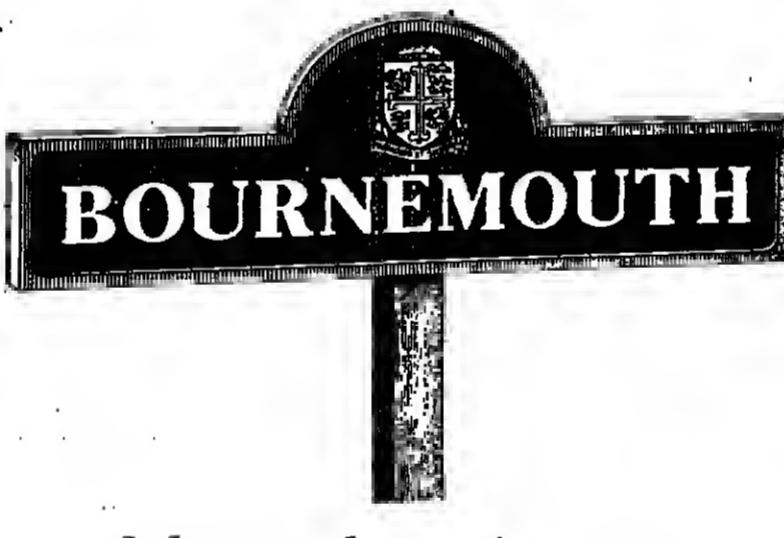
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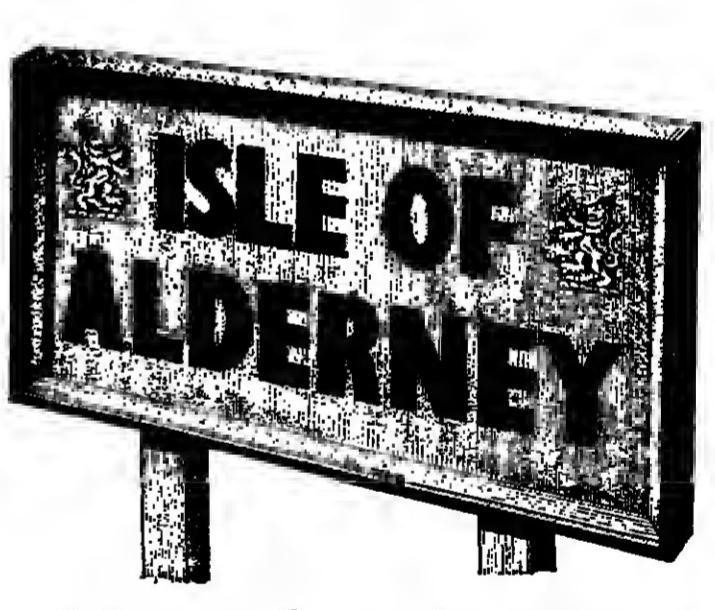
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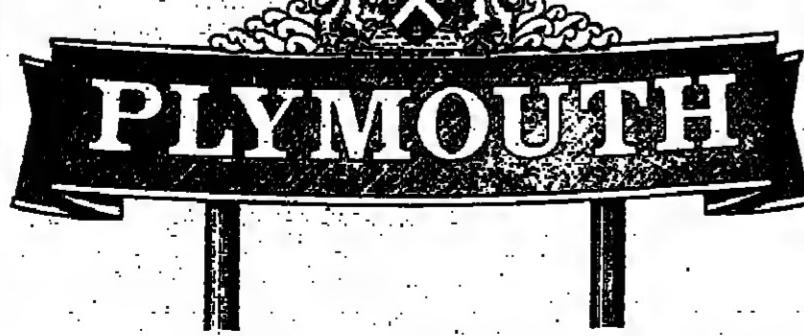
Metropolitan Airways.



Metropolitan Airways.



Brymon Airways.



Brymon Airways.

From now on, you can step straight on to an international airline at your local airport.

Because British Caledonian have linked up with Genair, Metropolitan, and Brymon, three major airlines that operate from the regional airports shown.

They will all connect directly with most of our international flights at London Gatwick.

We call it the Commuter Service. It means you can now buy an unrestricted all-in ticket, for example, Liverpool-Atlanta, for the same price as London Gatwick-Atlanta.

And instead of your trip starting by car or train, it starts with your

international airline.

Commuter Service aircraft enjoy all British Caledonian's landing, parking and baggage handling facilities at London Gatwick.

And for your domestic flight there's a special Commuter Service check-in.

Next time you have a business trip abroad, fly British Caledonian.

Get all the advantages of an international airline on your doorstep.

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COMMUTER AIRCRAFT IV

Lynton McLain reviews prospects in the UK and Western Europe and profiles some of the companies involved

Flexible control of services

THE DEVELOPMENT of commuter and cross-border regional air operations in the UK and western Europe has been slower than in the U.S. There, they are an established form of transport for executives in a hurry and for all who want swift access to often isolated communities away from the main routes served by the major airlines.

Nevertheless, the potential in the UK and western Europe for these smaller-scale airline operations is considerable, but is constrained, in the view of some operators in Britain, by the less-liberal attitudes of Continental governments to the provision of "regional" air services.

The UK Civil Aviation Authority and the Trade Department estimate that a total of 1,500 potential air routes exist under current bilateral agreements between governments in Europe. Only a relative handful of these routes have been taken up by operators.

The policy of the UK Government, leading advocate of a more liberal regime for smaller airlines in Europe, is to support wherever possible the development of cross-border, regional, commuter-style air links, especially on non-trunk routes away from the major routes.

The government's broad aim is to have less stringent requirements for would-be operators and to try to remove the bureaucratic burden from smaller airlines.

Mr Iain Sproat, Parliamentary Under-Secretary of State at the Trade Department in London, went to Brussels, headquarters of the European Commission, in December to try to persuade his opposite numbers of the importance of accepting this more liberal approach to aviation in Europe. He made little progress, largely in the face of opposition from Denmark and Greece.

A further round of ministerial talks is to be held in June but there is no indication of any change of heart by Britain's partners in Europe.

Britain favours a measure of controlled liberalisation in the interpretation of bilateral air agreements. It does not want a revolution in the way air services are regulated, or total deregulation. Rather it favours an evolutionary approach to en-

courage the development of this "third-level" type of aviation in Europe.

In particular, Britain would like to see more development of less-popular routes by smaller, regional airlines, linking the industrial north and Midlands of Britain with the Continent.

At present, many of the services offered by the major scheduled airlines are based at the large, well-established airports. This has left regional airports with spare capacity and communities without regular air links with other industrial and business centres.

Reviews

In practical terms, the regulation of civil aviation in Britain is the subject of three separate reviews. The entire operations of the Civil Aviation Authority have been reviewed by the CAA following a review by Mr Sproat in July last year. The completed review was sent to the Trade Department in February this year, but no details have been published.

The second review, by the Trade Department, looked at the regulation of domestic air services.

This followed a visit by Mr Sproat to the U.S. The CAA compared the position on deregulation in Britain and the U.S. and discussed in a paper to the Secretary of State for Trade the scope for further liberalisation in Britain.

The CAA's own view is that the authority does apply to applications for new licences is that it is not against deregulation, but it believes that the room for deregulation and liberalisation is limited.

The regulation that the authority does apply to applications for new licences is limited to airline substitution, where one airline may wish to displace another, and to unnecessary duplication and capacity on routes.

The third inquiry into UK civil aviation was started by the Monopolies Commission in January when it began a review of air traffic control services.

One supporter of maintaining the status quo in the regulation of civil aviation in Britain is Mr Robb d'Erlanger, managing director of Metropolitan Airways, based at Bournemouth-Hurn Airport. He believes that the system as it stands is appropriate for Britain.

On the continent of Europe, the European Regional Airlines Organisation reported recently that its nine member airlines, from Germany, Austria, France, Switzerland and Sweden carried over half a million passengers and 650 tonnes of cargo last year.

The airlines, Austria of Munich; Austrian Air Services of Vienna; Brit Air of Morlaix, France; Crossair of Zurich; Delta Air of Friedrichshafen; Flight Travel Service of Paderborn; Nuernberger Flugdienst of Nuremberg; Swedair of Stockholm and Tyrolean Airways of Innsbruck carried 588,700 passengers on more than 61,000 flights.

Ireland is another area where small regional airlines have developed to meet the needs of distant communities. Two of the country's regional carriers, Aer Arann and Aer Aran, have recently been licensed to operate a series of new flights. Aer Aran will fly from Dublin to Blackpool and East Midlands Airport near Derby, as well as from Cork to Jersey.

Aer Aran is to fly from Shannon to Belfast, Dublin to Manchester and to Cork as well as Cork to Belfast and Cardiff.

PROFILE: METROPOLITAN AIRWAYS

Capitalising on enthusiasm and personal links

THE Channel Islands, with their geographical isolation from the UK and mainland Europe, and their two advantages, have spawned a number of small, regional airlines over the years. These include Alderney Air Ferries, the forerunner of the year-old Metropolitan Airways based at Bournemouth-Hurn Airport, the airline which took over Dan Air's "Link City" domestic routes last year.

Like many commuter and regional airlines, Alderney Air Ferries started life as the enthusiastic idea of one person with one aircraft. In this case it was Mr Robin Ashley who founded the airline in July 1979 with an eight-seat British-Norman Islander for charter work to Bournemouth and Chel-

bourg. He acquired a second Islander in October 1980.

Mr Robin d'Erlanger, managing director of Metropolitan Airways, came into the regional airline business after qualifying as a chartered accountant in London. Flying was his hobby and he gained his commercial pilot's licence. After serving with Brymon Airways in Plymouth he set up Air Westward in 1978-79 in association with Mr Peter Cadbury, former head of Westward Television.

The airline operated from Exeter to Gatwick, Glasgow, Paris and Amsterdam, before being taken over by Air UK.

Personal contacts mean a great deal in the entrepreneurial world of small airlines. It was through Mr David

Besty, a founder of the Caledonian Airline Group and chairman of Metropolitan Airways, that Mr d'Erlanger met Alderney Air Ferries and was given the chance of taking over the airline.

By the end of 1980 he had turned the company into a regional airline with scheduled services between Bournemouth and Alderney, Cherbourg and Gatwick Airport.

Alderney Air Ferries already had the seeds of growth through its contact with Dan Air which handled the airline's aircraft, baggage and passengers at Bournemouth-Hurn Airport.

Dan Air operated scheduled services with 48-seat BAE 748 aircraft on its "Link City"

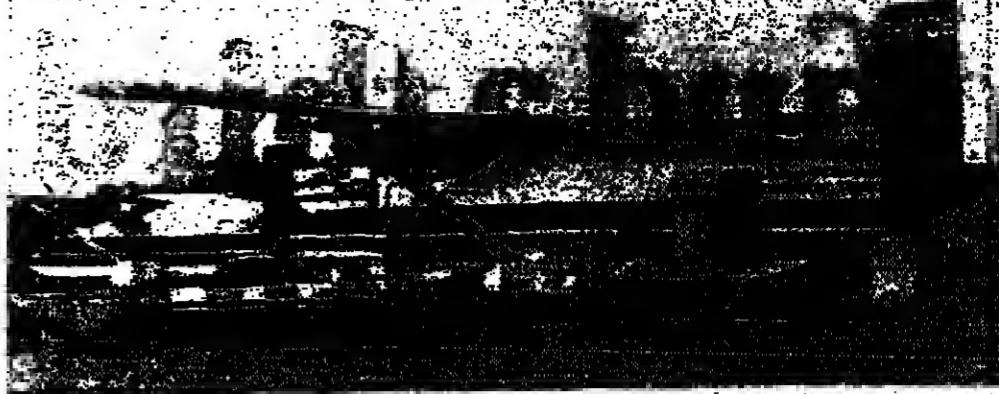
Enjoying rapid growth

GENAIR, THE regional carrier based at Humberside Airport, has its origins on the other side of the Pennines, at Liverpool and Chester.

The airline is the brainchild of two executives of the Chester-based General Relay telecommunications equipment company, Mr Bob Marshall, managing director of Genair, and Mr Jim Marsden, chairman of the airline who, with Mr Denis Allen, formed the manufacturing company in 1970 after working for Plessey, GEC and Phillips.

They were frequent users of small regional airlines to meet the needs of distant communities. Two of the country's regional carriers, Aer Aran and Aer Aran, have recently been licensed to operate a series of new flights. Aer Aran will fly from Dublin to Blackpool and East Midlands Airport near Derby, as well as from Cork to Jersey.

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A Genair Short SD 360 for feeder services in British Caledonian colours.

in Britain were based in Scotland and in the West Country. There were no commuter airlines in the North West.

Shortly after this first step towards commercial flying operations by General Relay, the management of Liverpool Airport, keen to encourage new services to London, asked the company if it would consider flying to Gatwick Airport with scheduled passenger services.

The two executives studied the commuter airline idea in the U.S. and launched the Liverpool to Gatwick scheduled air service, Genair's first, in August 1981, with an 18-seat Brazilian Embraer aircraft, operating two round trips a day.

British Midland Airways continued to operate its Liverpool

Heathrow services.

The Gatwick service was sufficiently successful for Genair to start additional services, linking Liverpool with Leeds and Amsterdam. The expansion encouraged the airline to consider plans for further expansion through the acquisition of other smaller commuter airlines elsewhere in Britain.

By October last year, General Relay, at the owner of Genair, had acquired all the ordinary shareholding of Lease Air and of Cesar Aviation Services.

Lease Air traded as Eastern Airways and Cesar was based on Tenterfield.

The acquisition resulted in the amalgamation of the three regional airlines, Genair,

Eastern Airways and Cesar, under the name Genair.

The larger Genair started with a fleet of five Short SD 360 30-seat airliners, one Short SD 360 36-seat airliner—the third production aircraft—and four Embraer Bandeirante 18-seaters, of which three are on charter or sub-lease operations.

The new airline was the first in Britain to take delivery of the Short SD 360 airliner, the enlarged and more powerful version of the highly-successful SD 320 aircraft.

Shortly after the acquisition of Eastern Airways and Cesar, Genair and British Caledonian Airways announced the formation of British Caledonian Commuter Services, in November 1982.

British Caledonian welcomed the development as a way of encouraging commuter air services to feed passengers into its base at Gatwick Airport.

Other airlines are associated with the scheme, but Genair was the first and from November the smaller airline started to operate its own aircraft in the new British Caledonian Commuter Services colour scheme. The plan is for the entire Genair fleet to be repainted in the British Caledonian Commuter Services colour.

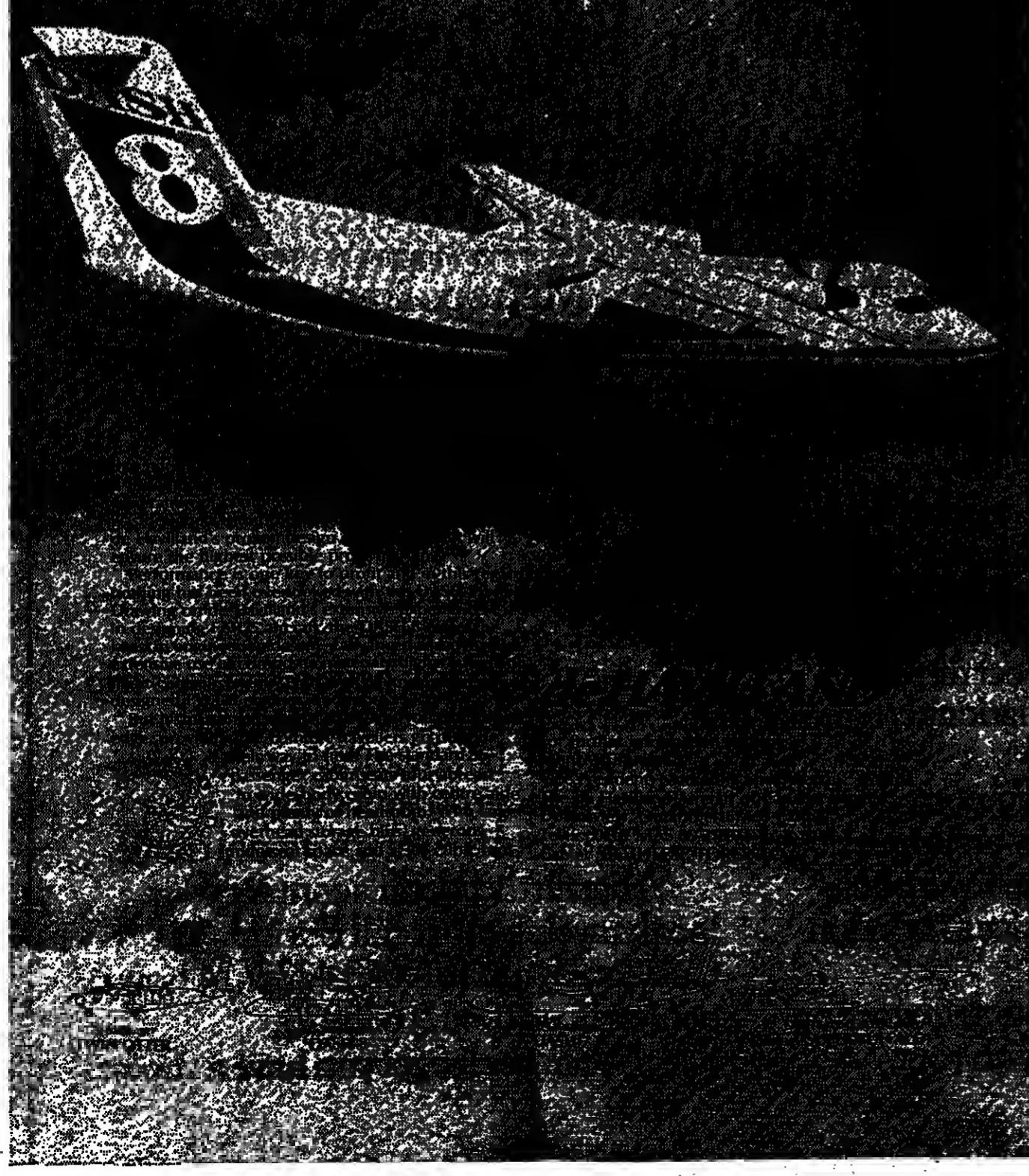
In return, as well as aircraft and passenger handling and joint promotion and marketing, Genair's Gatwick services will be carried in British Caledonian's worldwide reservations system.

Genair has grown rapidly since it carried its first scheduled passengers.

Genair forecasts that it will carry 100,000 passengers this year, compared with the aggregate of 52,000 passengers carried by Genair, Eastern Airways and Cesar before the merger.

Turnover this year is expected to be £3m, based on a growing range of regional air services.

It's the bottom line that counts



A FINANCIAL TIMES SURVEY

AEROSPACE

The Financial Times is proposing to publish its annual survey entitled Aerospace on May 23, 1983.

Among the topics to be discussed will be:

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COMMUTER AIRCRAFT V

BIRMINGHAM EXECUTIVE AIRWAYS

Building on routes to Europe

BRITAIN'S NEWEST regional commuter airline, Birmingham Executive Airways, has risen phoenix-like out of the decision by British Airways to cease operations on four of its routes from Birmingham to major business centres in Europe.

These routes, from Birmingham to Milan, Zurich, Brussels and Copenhagen, were operated by British Airways with 30-seat BAC 1-11 twin jet aircrafts at low, uneconomic load factors.

The state-owned airline ceased operations on the Milan, Zurich and Brussels routes on March 21 last year and stopped operating the service to Copenhagen on March 26 this year.

The decision by British Airways to pull out of these routes came as part of a network-wide rationalisation programme which called for each route to be viable in its own right.

Only one of the routes was taken up immediately. British Airways stopped operations, British Midland Airways took over the Birmingham route to Brussels route with a direct, twice-daily scheduled service from April 1 last year, based on a 44-seat Fokker F27 aircraft, which has less than half the capacity of the BA aircraft.

Milan and Zurich remained unattractive choices for conventional airlines largely because of the low traffic densities and low load factors when operated with medium-sized airliners such as the BAC 1-11 and the DC-9.

The Birmingham to Milan route was operated daily during the week. British Airways flew 1,000 passengers in 1982. A Sunday service was added and the passenger demand gave a load factor of 54 per cent. In the 12 months from November 1980 to October 1981, British Airways carried a total of about 15,150 passengers; half of them were full fare passengers.

Captain Trevor Jones, managing director of Birmingham Executive Airways, was interested primarily in the full-time business traveller, which led him to make a break with Alitalia, the company he joined in 1972 as chief pilot.

Alitalia operated business routes from East Midlands airport to Edinburgh and Aberdeen and holiday flights to the summer months to the Channel Islands. Captain Jones favoured operations orientated towards the business traveller exclusively and he left Alitalia in October 1982.

The British Airways figures



Captain Trevor Jones with Birmingham Executive's first BAE Jetstream 31, just delivered. The second aircraft is being delivered next month.

for its routes out of Birmingham showed that, typically, on the 1-11 flights to the Continent, only 50 of the 98 seats available would be taken and of these only between 20 and 25 were taken by passengers paying full fare. Captain Jones was convinced that these routes could be made profitable but only through the use of smaller aircraft, downsized to the modest

business market.

He favoured the British Aerospace Jetstream 31 twin-turboprop executive aircraft with seats for 18 passengers. This, he felt, could be used to operate daily flights to Milan, Zurich and Copenhagen, with greater frequencies if the extra demand was there.

Informal talks were held with the Civil Aviation Authority and with West Midlands County Council. The council had invested £50m in a new passenger terminal at Birmingham Airport, to open in spring next year, and it did not want to lose any air links, least of all links with the European Community.

Captain Jones also approached local chambers of commerce, to sound out the idea of an air service for local business travellers. British Aerospace, keen to sell its Jetstream 31 aircraft, but anxious to know more about the proposed services, did its own research and found the idea viable.

The licences for Birmingham Executive Airways to operate the routes from the city to Milan, Zurich and Copenhagen were granted by the CAA on March 1, subject to the successful completion of a proposed share subscription scheme to finance the venture.

Captain Jones and his financial advisors and stockbrokers estimated that £480,000 would be needed to finance the airline. A total of 200,000 shares at £1 each were to be paid for by the founders of the airline with 300,000 shares on offer by subscription at £1.50 each.

Captain Jones exchanged letters of understanding with British Aerospace on November 23 last year and paid a non-refundable deposit with the manufacturer to secure delivery

in April and May this year. The two Jetstream aircrafts are to be leased by Birmingham Executive Airways and the same undisclosed terms are to be available for a third aircraft, if the airline takes up this option, this spring.

Services from Birmingham to Milan and to Copenhagen are expected to start on April 26 this year and the service from Birmingham to Zurich on June 6.

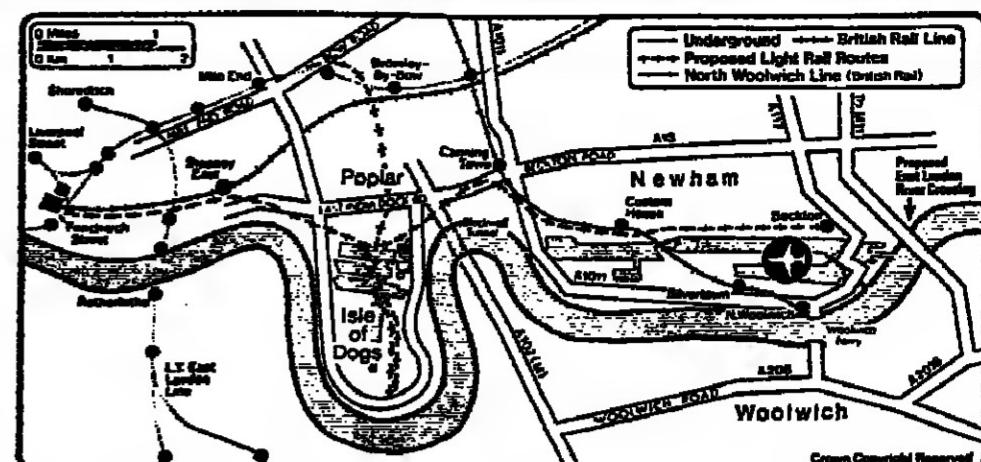
The new Milan service is to start as a daily return service, Monday to Friday, with an out-bound departure to leave Birmingham early in the morning, with the inbound flight returning to Birmingham at midday. After three months the service is to be increased to twice daily on Mondays and Fridays.

Further increases in frequencies are also planned for the autumn.

The Birmingham to Zurich operation is also planned as a daily service Monday to Friday, as will the service to Copenhagen.

Total sales by the new airline in 1983-84 are forecast to be almost £2m, producing a loss after expenses of £221,000.

The airline has forecast that it will move into profitability in the second full year of operations, 1984-85, with an estimated pre-tax profit of £10,000 on total sales of £3.4m.



Inquiry into Docks STOLport

ONE OF the most dramatic developments for the new commuter aviation in the UK now being planned is STOLport (for Short Take-off and Landing aircraft) in the now disused Docklands area of Newham in East London.

This scheme has been proposed to the London Docklands Development Corporation by Brymon Airways, the commuter airline, in conjunction with the civil engineering group John Mowlem. The plan is now to be the subject of a public inquiry that has yet to be announced by the Secretary of State for the Environment, but is likely to be this summer.

The four-engined de Havilland Canada Dash Seven aircraft which Brymon proposes to use is so quiet that it is claimed that probably, few

people locally would notice. The majority of flights would be around breakfast time or early evening, and there would be no night flying.

The 50-seat Dash Seven can use a runway of less than 2,300 feet, flying at very slow speeds and taking off and landing at a comparatively steep angle. Passengers flights with the aircraft were carried out successfully on a rough strip in the Docklands last summer.

These aircraft could also handle up to 100,000 tons of freight a year, and encourage industrial and commercial companies to move back into the area.

M.D.

Losses of £6.1m in 1982 for operations in Scotland before the formation of the new division were brought down to £500,000 in the first year of operation. But passenger traffic, as in many parts of the world, fell too — in the Highlands Division's case by 15 per cent.

British Airways profits a profit this year which will be the first time in 40 years of flying in Scotland that it has been able to make money on these routes.

The traveller is still the business flier and families on the islands need to fly to the mainland. The tourist is a prime target for British Airways marketing.

Loganair, a subsidiary of the Royal Bank of Scotland, flies a fleet of 16 small aircraft. It suffered heavy blow with the loss of an oil charter contract last year which contributed to a £1m loss for 1982. It was the third consecutive loss faced by the airline in as many years.

Seven aircraft were sold off

to reduce the financial burden.

Improving the utilisation of aircraft.

Money-making routes

on Loganair have been its recently-acquired Edinburgh to

Manchester and Glasgow to

Belfast routes where passengers' response has been good.

Other routes in Scotland such as the link between Lerwick in

Shetland to Edinburgh operate profitably.

But some require Govern-

ment subsidies. The Scottish

Development Department

underwrites £150,000 on a link

between Glasgow, Tiree, Barra

and Skye, while the Western

Isles Regional Council

for possible support to another

loss-making route to Campbel-

town in Kintyre.

Air Ecosse, operating out of

Aberdeen airport, is the exception among the three airlines.

It makes a profit—just under £1m last year on its 12 routes.

The airline is a family firm, a subsidiary of the Fairflight Aviation and Engineering company of Biggin Hill, but is run independently by a small staff under Mr Paul Mulligan in Aberdeen.

Buying the rightsized plane

for the route accounts partly

for the airline's success. It expanded out of charter work

with a fleet of Brazilian-built

Bandeirante 15-seat aircraft. To-

day it has added two Short 3-60s

with 36 seats and another

smaller aircraft.

Air Ecosse routes between

Aberdeen and Wick in the far

north and between Aberdeen

and Liverpool are among its

best runs—but a new route soon

to open connecting London

Heathrow to Dundee could also be popular.

Mark Meredith

Fitting services to the market



An Air Ecosse Short 360. The airline made a profit of just under £1m last year.

THREE AIRLINES fly the Scottish air routes from a base in Scotland and by and large it is an expensive business.

Two made losses from their operations in Scotland last year. The Government or regional councils paid £500,000 in subsidies to maintain socially important air links; the eight airports run by the Civil Aviation Authority in the Highlands and Islands required a subsidy from Government of £3.8m last year, while together the four larger airports of Aberdeen, Prestwick, Edinburgh and Glasgow made an accumulated loss of £3.5m.

The three-British Airways, Loganair and Air Ecosse—have tried to adjust their operations to the size of market to reduce costs. While significant increases in air traffic within Scotland

cannot be expected the losses are slowly being trimmed and even turned into profits.

British Airways, in a thorough shake-up of its operations in Scotland, formed its Highland Division in May of 1982. It took off in fuel-hungry large Viscounts, replacing them with five HS748 aircraft with 44 seats — more suited to demand from the more remote areas.

Staff were cut from 622 to 134 and the airline concentrated on reducing losses on 10 routes. One route between Aberdeen and Inverness was dropped and the frequency of other routes trimmed.

It was clear from the start of this trimming exercise that British Airways would not seek subsidies on its routes or financial assistance on its running costs.

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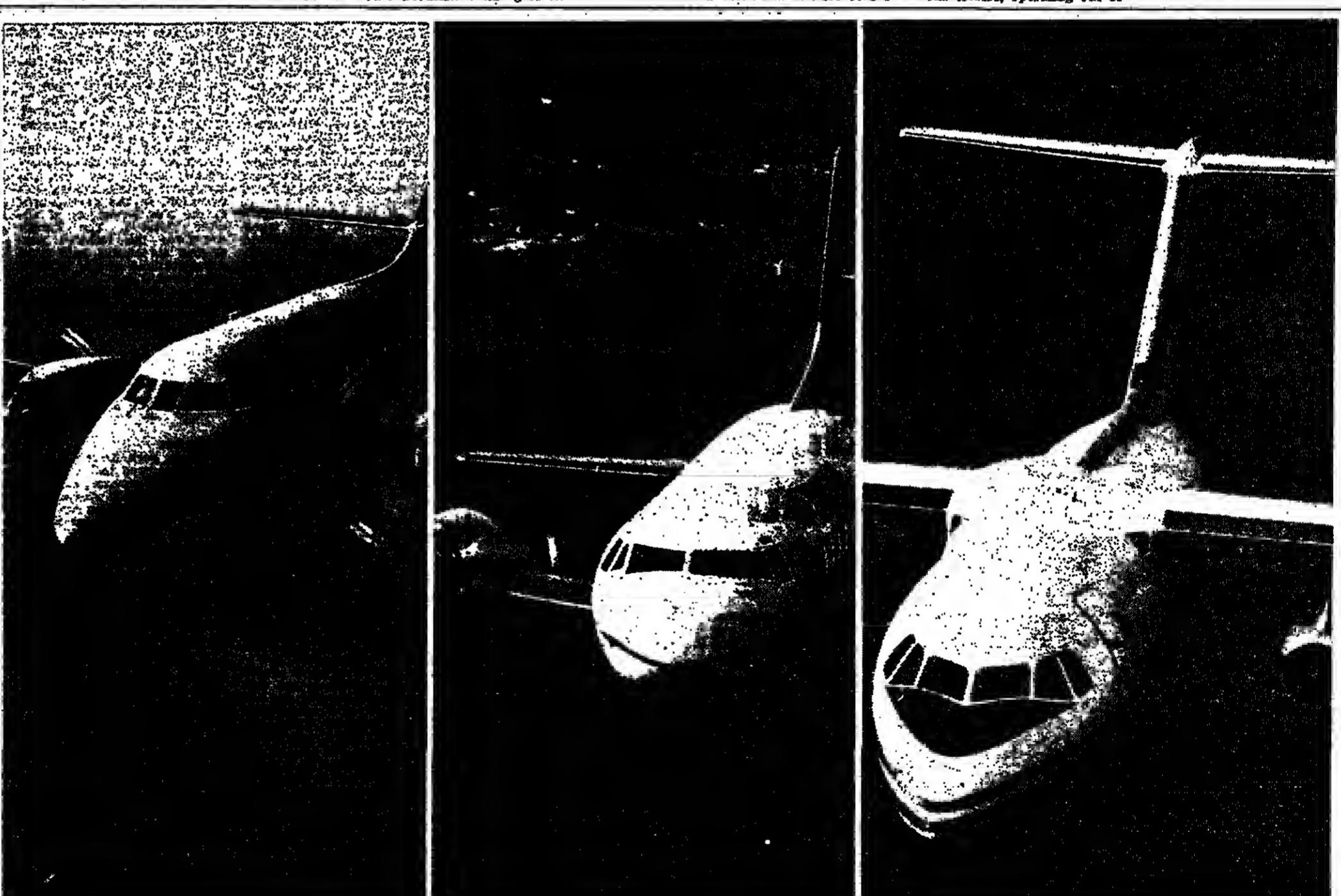
to open connecting London

Heathrow to Dundee could also be popular.

Mark Meredith

Unequalled

**in its range of
regional
commuter
aircraft**



No other company can respond to the growing needs of regional and commuter airlines throughout the world with the range of options offered by British Aerospace. Jet and turboprop aircraft now in production provide seating capacities from 18 to over 100 seats, with the passenger appeal and operating economy essential to build profitable traffic where other aircraft have failed, and further developments are in hand.

Jetstream 31 combines the amenities and comfort of a true airliner with the economy and structural integrity needed for successful high-frequency operation on short-haul commuter and feeding services between the smaller communities and urban airports. Powered by fuel-efficient turboprops, it has a roomy, walk-through, pressurized cabin capable of providing full in-flight services for up to 18 passengers.

748 has built profitable traffic on routes where other turboprop and jet airliners have proved uneconomic. It has won an unsurpassed record of reliability, averaging less than one maintenance man-hour per flying hour. With sales now at 360, production has been stepped up in response to increased demands occasioned by the 748's exceptional fuel economy and low operating costs. The new Super 748, which will become available in 1983, offers improved economy and comfort, and lower noise-levels at airports end in flight.

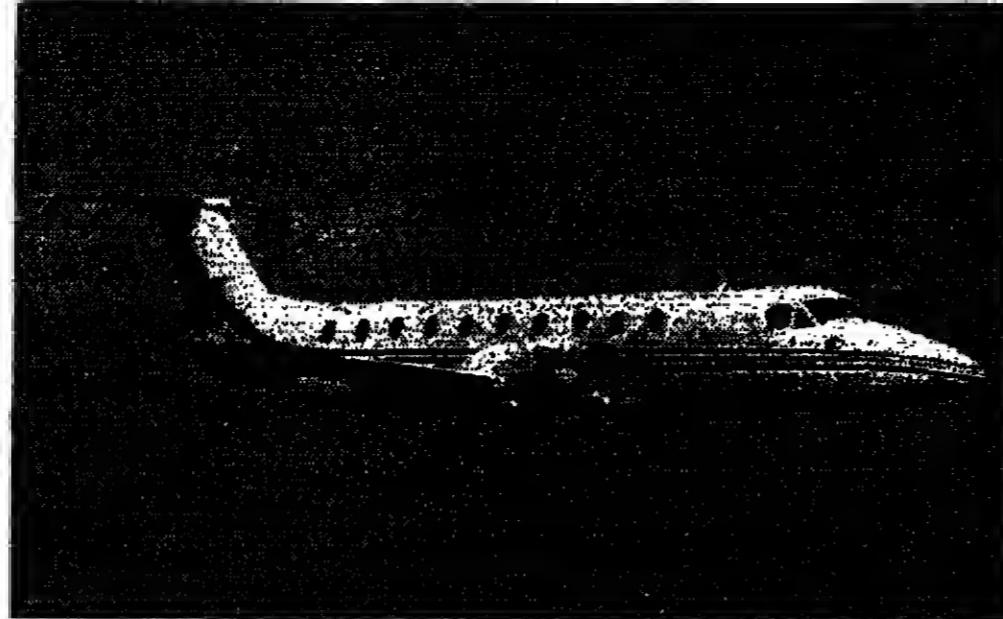
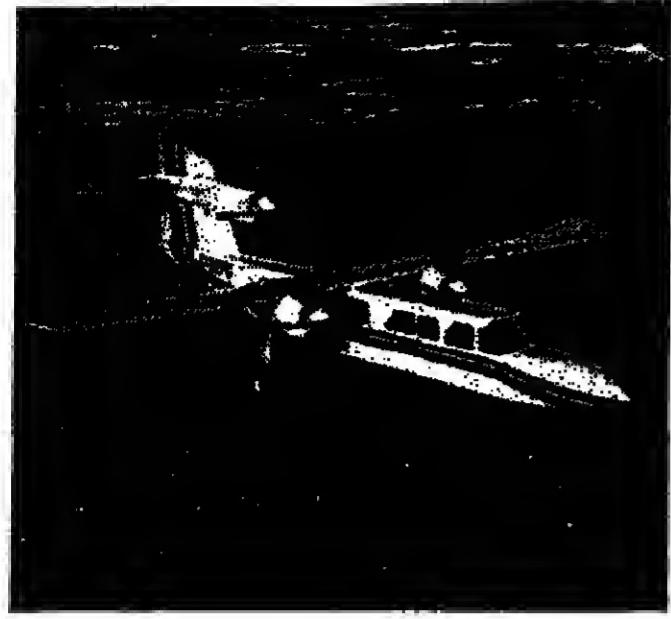
BRITISH AEROSPACE
unequalled in its range of aerospace programmes

146 is the first jet airliner to be designed specifically to meet the needs of regional and commuter airlines through to the next century. Four new-technology, high-bypass-ratio turbofans give this 80/109-seat feederliner low operating costs, ultra-low noise-levels and exceptional short-field performance which ensure profitability, flexibility and community acceptance on short-haul routes serving urban airports and hot-and-high airfields.

British Aerospace PLC, Kingston-upon-Thames, England

COMMUTER AIRCRAFT VI

Manufacturers all over the world are producing an increasingly wide range of designs to win a share of this \$25bn market



The aircraft: four-seaters up to jets

THE INCREASING size of the "third-level" aviation market, with its anticipated scope eventually for sales of about 6,500 aircraft worth about \$25bn through the rest of this century, is attracting increasing attention from the manufacturers.

Already a wide variety of aircraft is available for commuter, regional or local-service operations, ranging in size from the smallest four- to six-seat cabin aircraft up to the 109-seat Series 200 version of the British Aerospace 146 regional four-engined jet airliner.

In addition, a range of new aircraft of various sizes is under development, mostly for delivery from next year, which will widen the choice for third-level operators to an unprecedented degree, in terms of size, range-payload capability and price.

All these aircraft have many features in common. Apart from a few exceptions (such as the four-engined BAe 146 jet), they are twin-engined, turbo-propeller-powered aircraft, giving exceptional quietness compared with jets, and all can be used from comparatively rugged, undeveloped fields and strips as well as normal airports and runways. The exceptional flexibility and low cost which this gives are the most desirable features of all commuter/regional/third-level aviation operations.

While some jets, and even

some helicopters, are used for commuter operations (the latter especially for some inter-city operations, again mostly in the U.S.), the higher costs of such aircraft tend to confine them to the specialist types of commuter operations, and most operators, especially the smaller ones, tend to prefer turbo-props.

Nevertheless, the jets and helicopters are finding increasing roles in commuter/regional/third-level operations, and in helicopters especially, the tendency is to evolve designs with technological improvements designed to save weight and fuel, to bring down operating costs and in turn make them more attractive to the growing band of operators.

The major fixed-wing manufacturers involved include Beech, Cessna, Piper, Fairchild Swearingen and Gulfstream Aerospace of the U.S.; Embraer of Brazil; British Aerospace, Short Brothers and Pilatus Britten-Norman of the UK; Fokker of Holland; de Havilland Aircraft of Canada; Aerospatiale of France; Aeritalia of Italy; Israel Aircraft Industries; Saab-Sonaca of Sweden (in conjunction with Fairchild); Dornier of West Germany and CASA of Spain, in association with Nurtanio of Indonesia.

The helicopter manufacturers involved include Bell, Hughes, Sikorsky and Boeing Vertol of the U.S.; Agusta of Italy; Westland of the UK; and Messer-

schmitt-Bolkow-Blohm of West Germany. All of these manufacture rotary-winged aircraft of various sizes which in one way or another can be used in commuter or third-level transport work.

In all, there are well over 50 different types of aircraft available from more than a score of separate manufacturers worldwide. While some of these are distinctly "airliners" in their own right, others are equally capable of being adapted to a wide range of other duties (and are frequently employed in those roles in many parts of the world).

Of all the types available, at the top end of the scale is the British Aerospace 146 short-range four-engined jet airliner. This is probably more accurately described as a "regional" airliner than a commuter type, since it is expected to be used in front-line scheduled airline services by many major operators.

Sales drive

Nevertheless, British Aerospace is aiming its sales drive worldwide at the largest possible market for short-haul air services of all kinds, especially in the U.S., Western Europe, the UK and Japan, and it believes that the range of uses for the 146 will be very wide, especially because of the aircraft's very short take-off

and landing distances.

Also in the UK, Short Brothers of Belfast has already developed an enviable position

in the world commuter aircraft market, with its 32-seat 380 twin-turbo-prop aircraft, and its more recent stablemate the 36-seat 360. These aircraft have already resulted in Shorts being dubbed the "Seattle of the Commuter / Regional Aircraft Business"—showing that the market stands comparison with that of Boeing in the much bigger jet transport aircraft market.

The 360 in particular is already well ahead of any rival in the 36-seat category, and is already demonstrating its ability to make its operators money, following entry into service in the U.S. a few months ago. Other versions of these aircraft are available, notably the 38-seat, civil freighter version of the 330, while a military tactical transport version is also on offer.

Shorts also continues to build its long-running Skyserv light transport, widely used throughout the world for cargo and general purpose duties in both civil and military roles, especially in the developing countries.

Another major light transport aircraft builder is the Swiss-owned, but UK-based, Pilatus Britten-Norman, which is active in the Isle of Wight building the Islander 10-seat twin-engined aircraft. Since production began in 1968-69, more than 1,000 aircraft have been delivered from Britten-Norman (as it was originally called before its take-over by Pilatus of Switzerland).

These have included 386 Islanders, five of the new turbine-powered Islanders, 66 Defenders (the military version), 73 three-engined Trislanders. A substantial number of aircraft are either in production or on order, and the company believes that market prospects are good, especially in the Third World.

One of the world's biggest manufacturers of light transport aircraft is de Havilland Aircraft of Canada, with its 50-seat, four-engined Dash Seven aircraft and its highly-successful Twin Otter twin-engined 18-20 seater which, since 1966, has amassed more than 7m flying hours and an order book of

more than 800 aircraft.

The company's new addition to the range, the twin-engined Dash Eight, a 32-36-seat aircraft now under development, is due to make its maiden flight this summer with delivery to airlines beginning in 1984.

A feature of all the de Havilland Canada types is their exceptional Short Take-Off and Landing (STOL) performance which gives them a unique ability to operate from short, unprepared airstrips worldwide as well as from normal airports.

This feature in particular has contributed to the success of the Twin Otter, now the world's best-selling light STOL transport aircraft.

Strong position

The Brazilian aircraft manufacturer, Embraer, has also established a strong position in the world's commuter and third-level airliner market with its 20-seat Bandeirante, of which more than 400 have been sold so far.

The company is now well ahead with the development and production of a new, larger, 30-seat twin-turbo-prop engine, the EMB-120 Brasilia. This is expected to have its maiden flight this summer, with certification expected in 1984 and production deliveries to airlines starting in 1985.

By the end of February, Embraer held orders for more than 100 of this new-generation aircraft. Power plant for the Brasilia will be the Pratt and Whitney (Canada) PW-115, rated at 1,500 shaft horsepower. Development of this engine, in the PW-100 series, is reported to be on schedule, with performance up to specification.

A feature of the growing commuter/regional/third-level aircraft market has been the emergence of international collaboration in the development of the new generation of aircraft involved. The British Aerospace 146 includes risk-sharing agreements with Avco Aerostructures of the U.S. for wing-boxes, and with Saab-Scania of Sweden for tailplanes and all movable control surfaces.

This type of international collaboration has been carried

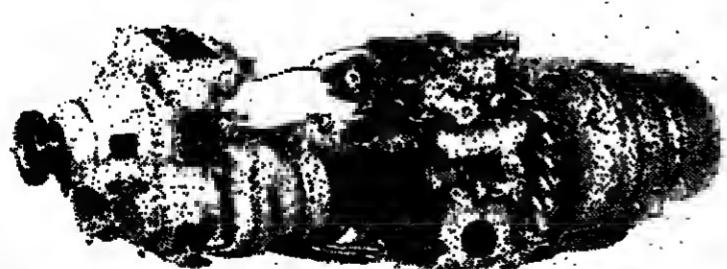
much further, however, in the emergence of joint ventures in both Western Europe and the U.S. Saab-Scania of Sweden and Fairchild of the U.S. are collaborating on the development of the 340, a 34-seat twin-turbo-prop airliner, described as the first truly "transatlantic manufacturing agreement" on a civil aircraft.

The 340 has already made its maiden flight, and development is well under way at Saab's Linkoping airfield, with certification set for early 1984. By the end of February, orders and options for the 340 stood at well over 60 aircraft from 12 operators.

Elsewhere in Europe, Dornier of West Germany is delivering its Do-228 twin-engined aircraft, with an order book for over 100. Available in two versions, the Series 100 15-seater and Series 200 19-seater, the aircraft embodies much advanced technology, especially in its wing design. Dornier is believed to be considering plans for a new, larger version, of up to 30 seats, perhaps in collaboration with another manufacturer abroad.

CASA of Spain is working with Nurtanio of Indonesia on the development of the CN-235, a 38-seat twin-engined airliner which is being built both in Spain and in Indonesia, with deliveries to customers scheduled for 1984. Michael Donee

Pratt & Whitney's PW100 is the only new turboprop designed specifically for the new generation of 30-70 passenger commuter aircraft.



Already selected by Embraer, de Havilland, Aerospatiale/Aeritalia and British Aerospace.

UNITED TECHNOLOGIES
PRATT & WHITNEY
CANADA

Helicopter fleet expands

THE COMPARATIVELY late acceptance of the helicopter as a commuter vehicle stems entirely from the lack hitherto of suitable types of operation with suitable operating costs, developed specifically with this type of operation in mind.

Earlier helicopters of the 1960s and 1970s tended to be derived from military types, and were expensive to use in a civil role, and many of the commuter-style operators that emerged in the U.S. in that period, even though subsidized, failed to survive.

The fare they were obliged to charge the passengers proved too high relative to the reliability of the service and the standards of comfort they could offer, despite the undeniable saving in time they provided.

This situation is now changing,

and although the helicopter

is still used in a minority

in terms of numbers compared

with its fixed-wing counterparts,

it is attracting increasing attention among commuter air-line operators.

The primary market at present appears to be in the provision of links either between city centres and airports, or between outlying urban areas (especially in well-to-do areas where there is a proportionately higher percentage of resident business travellers) and the airports, and especially where road congestion is often severe.

Congestion

The problem of road congestion, identified in cities as far apart as London, New York, Houston and Sydney, is probably endemic to every big city in the world where international air communications are vital. In the UK, road congestion—so far only partially relieved by the construction of motorway links—led some time ago to the development of a direct inter-airport helicopter link between Heathrow and Gatwick for the benefit of connecting airline

passengers.

In New York, British Airways provides a free helicopter service for Concorde passengers between Kennedy Airport and Manhattan, while Pan American offers a free helicopter service between Kennedy and Manhattan for all its First Class and Clipper Class passengers.

While as yet there is no comparable regularly-scheduled city-centre to airport helicopter service in London for fixing airline passengers, there is at least a floating "hub-stop" on a barge close to Southwark Bridge in the City which is sometimes used for such purposes, though the numbers of aircraft permitted to use it on any one day are restricted.

Although the principal factor

which hitherto has restricted

the use of helicopters in

commuter-style operations has

been the lack of suitable types

of aircraft, there are other

problems. One of these has

been noise. The earlier genera-

tions of helicopters were un-

doubtedly exceptionally noisy

and this has left a legacy

among local authorities and

communities of suspicion or

outright hostility which is still

a big stumbling block to heli-

copter commuter operations.

What is already acting as

the catalyst for change, how-

ever, is the availability of quieter, more economic rotary-wing aircraft in the shape of such types as the Sikorsky S76

from the U.S. and the more

recently developed Westland 30

in the UK.

The Westland 30 is a 17-seat

twin-turbine-engined aircraft

developed by Westland Helic-

icopters of Yeovil. There are

already about 30 orders and

options for the machine, and

two have already entered ser-

vice with British Airways

Helicopters in oil and gas

industry support operations in

the North Sea.

This aircraft is expected to

assume a true commuter role

soon, when it enters service

with the Los Angeles-based helicopter airline, Airspark. That operator intends to put the six aircraft that it has on order into service on a network of high-frequency scheduled route operations in and around the Greater Los Angeles area, beginning with a link between Fullerton and Los Angeles International Airport—a truly "commuter-style" operation between urban sites and a major domestic and international "hub" airport.

Watching Considerable interest has already been expressed by other potential helicopter commuter operators in the U.S., and they will be watching the Airspark operation closely. Westland itself is hoping that, within a few months, the Airspark link will be replicated by others in many parts of the U.S.

Indeed, the manufacturer believes that during the rest of this decade it will be able to sell a large number of Westland 30s. In this commuter role, although there are many other transport applications for the aircraft, for which sales are just

as evidently being considered.

Particular emphasis is placed by Westland on the reliability stemming from the modular design of the aircraft, other new-generation aircraft features. The point is that Westland aircraft are modular machines, with standards of construction being improved steadily.

Safety is obviously important in its own right. An audit by the U.S. National Transportation Safety Board showed that, over the past 10 years, U.S. helicopter accident rates had fallen fast, and are now little higher than those for fixed-wing aircraft.

Nods, as mentioned earlier, is still a problem in many countries, even in the U.S., while in the UK it has been a major factor in keeping down the levels of helicopter operations into and out of the London area, with a still comparatively high level of outright hostility towards the helicopter from local planning authorities and residents.

Michael Donee

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